



RTEMS Release Notes

Release 5.4

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RTEMS 5.4

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RTEMS 5.4

1.1 RTEMS / Documentation / Documentation

Go to *Issues* (page 2) or *Merge Requests* (page 3)

Issues Summary

135 - Theme error building docs on 5 branch (opened) (page 2)

Merge Requests Summary

221 - Update docs build for modern systems (page 3)

152 - gitlab: Add link to CI (page 4)

1.1.1 Issues

1.1.1.1 135 - Theme error building docs on 5 branch (opened)

Id	135
State	opened
Type	ISSUE
Author	Chris Johns
Created	2026-02-20T04:31:52.290Z
Updated	2026-02-20T14:38:41.886Z
Milestone	5.4
Labels	doc::sphinx
Link	https://gitlab.rtems.org/rtems/docs/rtems-docs/-/issues/135
Merges	0

Documentation does not build with the packages used on main . The error is:

```
1 Theme error:
2 An error happened in rendering the page index.
3 Reason: UndefinedError("'style' is undefined")
```

The 6 branch builds but that has a different theme.

Author: Chris Johns 2026-02-20T04:31:52.433Z

added rtems#14 as parent epic

Author: Chris Johns 2026-02-20T04:31:52.514Z

set status to **To do**

Author: Kinsey Moore 2026-02-20T14:33:01.359Z

Apparently modern versions of sphinx (7 or greater) have dropped the usage of “style” as it is now a keyword, so documentation must be updated. I have a potential fix, but I don’t have the ability to test on historical systems that would have used the original syntax to see if it still works.

Author: Kinsey Moore 2026-02-20T14:38:41.862Z

There is an additional issue if running on python 3.12 or later in that the “imp” module is gone, so I need to find a workaround for that, too.

Author: Kinsey Moore 2026-02-20T15:15:58.355Z

mentioned in merge request [!221](#)

1.1.2 Merge Requests

1.1.2.1 221 - Update docs build for modern systems

Id	221
State	merged
Merged by	Chris Johns
Merged at	2026-02-20T20:04:28.500Z
Assignee(s)	Kinsey Moore
Reviewer(s)	Chris Johns
Created	2026-02-20T15:15:52.813Z
Updated	2026-02-20T20:04:30.175Z
Milestone	5.4
Labels	doc::sphinx
Link	https://gitlab.rtems.org/rtems/docs/rtems-docs/-/merge_requests/221
Commit	081a3018dd1638de978c80a0b6680eeefa563d78

Summary

common/...theme_rtems/layout.html: Update theme for modern Sphinx

Old themes tend to use “style” and this is now a reserved keyword. Use styles[-1], instead.

Updates [#135](#)

common/waf.py: Backport importlib compatibility

This backports usage of importlib from main with the ability to continue functioning on python 2.x with the ‘imp’ module.

Closes [#135](#)

Generative AI

Author: Kinsey Moore 2026-02-20T15:15:52.949Z

requested review from @chris

Author: Kinsey Moore 2026-02-20T15:15:52.970Z

assigned to @opticron

Author: Chris Johns 2026-02-20T20:04:24.737Z

approved this merge request

1.1.2.2 152 - gitlab: Add link to CI

Id	152
State	merged
Merged by	Kinsey Moore
Merged at	2025-03-04T13:43:25.346Z
Assignee(s)	Amar Takhar
Created	2025-02-14T04:02:54.449Z
Updated	2025-03-13T22:44:50.765Z
Milestone	5.4
Labels	ci
Link	https://gitlab.rtems.org/rtems/docs/rtems-docs/-/merge_requests/152
Commit	570ffbc661ed256398c0f4036cc78e31daf589e1

Summary

gitlab: Add link to CI

This runs only the commit message and merge request checker.

Required so we can have 'all pipelines must pass' enabled due to a bug in GitLab.

Author: Amar Takhar 2025-02-14T04:02:54.639Z

assigned to @amar

Author: Kinsey Moore 2025-03-04T13:43:21.509Z

approved this merge request

1.2 RTEMS / Packages / Legacy Networking

Go to *Issues* (page 5) or `rtems/pkg/rtems-net-legacy-merges`

Issues Summary

18 - DHCP request includes host name option even if hostname is zero length (opened) (page 5)

Merge Requests Summary

1.2.1 Issues

1.2.1.1 18 - DHCP request includes host name option even if hostname is zero length (opened)

Id	18
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-10-27T19:57:18.000Z
Updated	2025-09-19T01:45:34.545Z
Milestone	5.4
Labels	network::legacy, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/pkg/rtems-net-legacy/-/issues/18
Merges	0

Original author: Sal

DHCP requests add the hostname option in `dhcp_request_req()` without checking its length, so the hostname can be of any length. This is a defect because the DHCP spec (<https://tools.ietf.org/html/rfc2132>) requires the hostname to have a minimum length of 1 char. This appears to trigger a bug in a specific Netgear router that causes it's DHCP process to lock up and could affect other things as well.

This bug can be solved applying the patch made by Aun-Ali Zaidi in the original ticket reporting this defect (<https://devel.rtems.org/ticket/1405>) that was never applied. I've been able to compile the code with the patch applied and it didn't raise any warnings.

Original ticket: <https://devel.rtems.org/ticket/1405>

- [0001-libnetworking-rtems_dhcp.c-Fix-improper-hostname-han.2-3.patch](#)

Author: Kinsey Moore 2025-01-31T18:25:05.267Z

assigned to @tracmigrate

Author: Trac Migrate 2018-11-13T22:52:26.000Z

Original author: Sal

- **Attachment** [0001-libnetworking-rtems_dhcp.c-Fix-improper-hostname-han.2-3.patch](#) added

Patch to check the length of the hostname, therefore to solve the bug.

Author: Kinsey Moore 2025-01-31T18:25:05.983Z

moved from rtems/rtos/rtems#3574

Author: Chris Johns 2025-09-19T01:45:34.619Z

changed the description

1.3 RTEMS / Packages / LibBSD

Go to *Issues* (page 7) or *Merge Requests* (page 8)

Issues Summary

25 - 5-freebsd-12: Migrate remaining references to git.rtems.org to gitlab.rtems.org URLs (page 7)

Merge Requests Summary

60 - gitlab: Add link to CI (page 8)
44 - README/libbsd.txt: Update links (page 9)
28 - rtems_waf: Fix URL of submodule (page 8)

1.3.1 Issues

1.3.1.1 25 - 5-freebsd-12: Migrate remaining references to git.rtems.org to gitlab.rtems.org URLs

Id	25
State	closed
Type	ISSUE
Author	Kinsey Moore
Assignee(s)	Kinsey Moore
Closed by	Chris Johns
Created	2025-01-13T19:46:03.912Z
Closed	2025-01-14T01:43:37.568Z
Updated	2025-01-14T01:43:37.591Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/pkg/rtems-libbsd/-/issues/25
Merges	0

Summary

There are still references in the 5-freebsd-12 branch to git.rtems.org. These need to be pointed at gitlab.rtems.org before we can cut another 5 release.

Steps to reproduce

1.3.1.1.2.1 Pre-set options

Author: Kinsey Moore 2025-01-13T19:47:33.223Z

Author: Kinsey Moore 2025-01-13T20:06:37.998Z

assigned to @opticron

Author: Kinsey Moore 2025-01-13T20:06:55.053Z

mentioned in merge request [!44](#)

1.3.2 Merge Requests

1.3.2.1 28 - rtems_waf: Fix URL of submodule

Id	28
State	merged
Merged by	Kinsey Moore
Merged at	2024-11-22T16:27:32.033Z
Created	2024-11-22T07:46:14.264Z
Updated	2025-09-19T02:43:11.098Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/pkg/rtems-libbsd/-/merge_requests/28
Commit	7f583c0c276060479703646f8b9e6cec122604fe

Summary

Fix the old submodule URL for rtems_waf for the 5-freebsd-12 branch.

Author: Kinsey Moore 2024-11-22T16:27:28.589Z

approved this merge request

1.3.2.2 60 - gitlab: Add link to CI

Id	60
State	merged
Merged by	Kinsey Moore
Merged at	2025-02-14T16:35:44.751Z
Assignee(s)	Amar Takhar
Created	2025-02-14T09:15:28.560Z
Updated	2025-02-14T16:35:50.400Z
Milestone	5.4
Labels	ci
Link	https://gitlab.rtems.org/rtems/pkg/rtems-libbsd/-/merge_requests/60
Commit	bb696e7df97c71125f165107a49f26d8b6356cea

Summary

gitlab: Add link to CI

This runs only the commit message and merge request checker.

Required so we can have ‘all pipelines must pass’ enabled due to a bug in GitLab.

Author: Amar Takhar 2025-02-14T09:15:28.770Z

assigned to @amar

Author: Kinsey Moore 2025-02-14T16:34:38.652Z

added 2 commits

- 8549dedb - 1 commit from branch rtems/pkg:5-freebsd-12
- bb696e7d - gitlab: Add link to CI

[Compare with previous version](#)

Author: Kinsey Moore 2025-02-14T16:35:29.150Z

approved this merge request

1.3.2.3 44 - README/libbsd.txt: Update links

Id	44
State	merged
Merged by	Chris Johns
Merged at	2025-01-14T01:43:16.233Z
Assignee(s)	Kinsey Moore
Created	2025-01-13T20:06:47.384Z
Updated	2025-01-14T01:43:17.615Z
Milestone	5.4
Labels	libbsd
Link	https://gitlab.rtems.org/rtems/pkg/rtems-libbsd/-/merge_requests/44
Commit	8549dedb1f92a6ab279d1f254040d6b6d95f338f

Summary

README/libbsd.txt: Update links

This updates git links from git.rtems.org to gitlab.rtems.org.

Closes [#25](#)

Author: Kinsey Moore 2025-01-13T20:06:47.836Z

assigned to @opticon

Author: Chris Johns 2025-01-14T01:43:10.748Z

approved this merge request

1.4 RTEMS / Programs / Google Summer of Code

Go to *Issues* (page 472) or *rtems/programs/gsoc-merges*

Issues Summary

11 - RTEMS Testing Tool Project (opened) (page 10)

Merge Requests Summary

1.4.1 Issues

1.4.1.1 11 - RTEMS Testing Tool Project (opened)

Id	11
State	opened
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-03-14T05:47:40.000Z
Updated	2025-09-19T01:46:09.487Z
Milestone	5.4
Labels	gsoc, gsoc::retired, old-indefinite, priority::normal, rtems::testing, ticket-type::project, version::5
Link	https://gitlab.rtems.org/rtems/programs/gsoc/-/issues/11
Merges	0

RTEMS Testing Tool Project

[\[Contents, inline\]](#)

1.4.1.1.1.1 Mentors

Chris Johns

1.4.1.1.1.2 Status ==

Looking for funding.

Introduction =

This project involves working on the RTEMS Testing Tool that resides in the RTEMS Tools package and is part of the RTEMS Tools Project. The RTEMS Testing Tool provides a consistent way to test BSPs on different hardware. The tool aims to integrate with a wide range of testing tools and methods generating a consistent report for the RTEMS test suite.

Project

The project is to enhance and improve some of the existing functionality and to complete needed parts.

1.4.1.1.3.1 Goal

- Make the configuration file format easier to use.
- Allows users to customise and change behaviour without changing configuration files.
- To be able to determine if a change in RTEMS causes a regression.
- To be able to verify simulator and real hardware results match for a BSP.
- Improve console support.

1.4.1.1.3.2 Prerequisite

- Knowledge of C and Python programming languages.
- Knowledge of host software and building packages such as simulators.
- Knowledge of debugging and debuggers.
- Knowledge of the RTEMS Tool's Toolkit.
- Requires Unix (Linux or FreeBSD) host.
- Requires modern PC hardware. Building all tests and running takes.
- Optionally a Zedboard or MicroZed with a JTAG debugging pod.
- Optionally a Windows 7 or Windows 10 machine.

1.4.1.1.3.3 Resources

- Current RTEMS developers.
- The existing RTEMS Testing Tool.

Tasks

The following are the tasks:

1.4.1.1.4.1 Tools ==

1. Build RTEMS `erc32` and `xilinx_zynq_a9_qemu` with all tests. 1. Build QEMU with required patches to run the Zynq BSP executables. 1. Verify `rtems-test` runs all tests and generates a report.

1.4.1.1.4.2 Configuration Files

The `rtems-test` command uses the RTEMS Tool's Toolkit macro support to read macro files. This file format is a simple text version of the macro fields and is loaded into the macro table. It is not easy to read and not really suitable. It was used as a configuration file format to get something working rather than a suitable configuration file format.

The RTEMS Testing tool uses the macros internally for its data and this is not to change. It is working and has nice features.

The task is to look at replacing the raw macro format files with a YAML file that lets us define and manage the BSP back end configurations we need to support.

An important area to be considered and implemented is an interface for user specific data a BSP back end configuration needs in order to run. For example when running the tests via JTAG you need to initialise the hardware in a target specific way and this data is not part of RTEMS so a user needs to provide it to the tool to run. A command line option is one way we need implement however adding endless command line options is not reasonable so a configuration file is also needed.

The configuration file format shall allow a user to define the console interface they have. This could be a direct serial connection or a telnet console.

1.4.1.1.4.3 Regression Analysis

The RTEMS Testing tools is to provide regression analysis for BSPs that provides the expected test result data.

This task requires adding support for the expected-fail result tests can now report and to track this value.

The task also requires a YAML format file for each BSP that defines its expected test results. The `rtems-test` tool shall attempt to locate the file when run in regression mode inside a build tree and also when the BSP is installed and determine if the BSP has regressed or the test results in RTEMS need updating.

1.4.1.1.4.4 Generic Serial Console

The console support in the back end is termios however this is not available on Windows. This task is to integrate a BSD licensed Python serial package that provides Unix and Windows support so consoles can be supported on Windows and Unix.

1.4.1.1.4.5 Telnet Console

Add support for telnet as a console. The `_ser2net_` package is a nice way to provide a number of serial ports on a network and a telnet console provides a way for testers to use it.

Acknowledgements

None.

Miscellaneous Sections

As the project progresses, you will need to add to the RTEMS Testing section of the User manual. This section does not currently exist but it should be present even in a skeleton form.

References

- None

Author: Amar Takhar 2024-04-26T01:25:49.227Z

assigned to @chris

Author: Gedare Bloom 2018-01-28T18:17:54.000Z

See also [#3276](#) for a possible idea.

Author: Gedare Bloom 2020-01-03T19:36:37.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2024-04-25T20:45:29.136Z

changed the description

1.5 RTEMS / RTOS / RTEMS

Go to [Issues](#) (page 494) or [Merge Requests](#) (page 320)

Issues Summary

5494 - Move README to README.md for the 5 branch (page 17)

5220 - Backport 5.4: Termios: cannot set all baud rates with `rtems_termios_set_best_baud()` (page 20)

5219 - Backport 5.4: grlib/occan: Fix baud rate calculation (page 18)

4985 - Build error: building `srg9xwm1` (opened) (page 312)

4984 - MCAN init fail on `arm/samV71 bsp` in RTEMS 5.3 (opened) (page 179)

4983 - MCAN fail on `arm/samV71 bsp` in RTEMS 5.3 (opened) (page 181)

4972 - potential issues? Undefined behavior issues caused by the misuse of keywords were discovered in RTEMS 5.3 (opened) (page 181)

4904 - Application build with vendor target toolchain fails with `rtems make build support` (opened) (page 181)

4898 - Checksum of `libbsd5.3` is not correct (opened) (page 186)

4897 - Wrong result comparing Python versions in `gdb-common-1.cfg` (opened) (page 315)

4886 - Build of `gdb-9.1` fails on `mingw64` (opened) (page 316)

4877 - `sptests/spsysinit01 sem_open` call only has 3 parameters with `O_CREAT` flag (opened) (page 316)

4764 - `msdos_format` throws `RTEMS_FATAL_SOURCE_INVALID_HEAP_FREE` on `free(fmt_params.sec)` (opened) (page 181)

4742 - Deadlock risk of Immediate Ceiling Priority Protocol (ICPP) with nested resource sharing (opened) (page 181)

4721 - Support tar along with `pax` (opened) (page 319)

4720 - Backport `rtems-tools` fixes (opened) (page 188)

4685 - Incorrect 3C509 driver function signature in PC BSP (opened) (page 189)

4542 - filename length problem in JFFS2 with RTEMS4.11.3/RTEMS5.1 (opened) (page 189)

4464 - `gpiolib`: Add support for newer `grgpio` features (opened) (page 191)

4443 - `powerpc/motorola_powerpc` BSPs build bootloader with `-msoft-float` (opened) (page 31)

4344 - `powerpc/beatnik`: split network driver into multiple files (preparation for `libbsd` support) (opened) (page 181)

4322 - Add a workaround for the LEON3FT RETT Restart errata: TN-0018 (opened) (page 193)

4318 - `grlib,gr1553bc`: set BC transfer descriptor timeout correctly (opened) (page 194)

4317 - `grlib,gr1553bc`: list creation did not set `table_size` field (opened) (page 195)

4179 - `libbsd` select timeout issue (opened) (page 196)

4146 - `rtems-tools/doc/rtems-tester.txt` Needs Updating or Removed (opened) (page 198)

4144 - `fileio` - Stack too small for login with password (cloned) (opened) (page 198)

4136 - `examples/README.waf`: Out of Date URL for How to Setup a Waf based RTEMS Application (opened) (page 198)

4053 - [`libbsd`] `e1000` driver not working for i386 based BSP in current `rtems-libbsd` 5 branch (opened) (page 198)

4012 - Porting EEMBC Coremaster Pro benchmark to `rtems` (opened) (page 202)

4009 - `pc386: smpatomic01.exe` fails (opened) (page 203)

4008 - `pc386: smpclock01.exe` fails (opened) (page 204)

4003 - Zynq-7000 BSP: Support using OCM as cacheable memory (opened) (page 30)

4001 - Test program `dl06` fails on `arm` (opened) (page 205)

3985 - RSB PC BSP packages fail on building `curl` (`libbsd` related) (opened) (page 206)

3975 - RTEMS 5 : `sem_wait` + `sem_destroy` behavior change (opened) (page 208)

3858 - PC386 BSP serial console outputs garbage on real hardware (opened) (page 211)

3825 - RSB prefix argument incorrectly processes tilde (opened) (page 213)

3824 - SMP for Ultrascalar+ in ARMv7/AArch32 mode via JTAG (opened) (page 27)

3819 - Consider FAA AC 20-148 - Reusable Software Components in RTEMS Software Engineering manual (opened) (page 216)

3801 - `Rtems 5` BSP Test Failing (opened) (page 216)

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3795 - RTEMS Source Builder README Broken link (opened) (page 216)
3791 - POSIX Message Queue thread release order is not priority based (opened) (page 21)
3790 - Terminal should block in default config case (opened) (page 217)
3788 - Documentation of Cygwin Packages (opened) (page 220)
3778 - POSIX Timers Do Not Support SIGEV_THREAD (opened) (page 220)
3759 - Add rtems-test support for atsam BSP (opened) (page 221)
3757 - Alternative memory allocators (opened) (page 222)
3752 - Strong APA Scheduler Undocumented (opened) (page 223)
3744 - A new Constant Bandwidth Server (CBS) version with reduced limitations. (opened) (page 224)
3740 - Libld does not load incrementally linked object file (opened) (page 225)
3727 - RTEMS 5 raises exception on mvme2100 VME CPU board (PowerPC) (opened) (page 235)
3721 - Doxygen param “in/out” attributes not matching function behavior (opened) (page 240)
3700 - Add rtems_rate_monotonic_deadline() (opened) (page 243)
3697 - pthread_once() lacks proper support for thread cancellation (opened) (page 247)
3663 - Add nl_types.h support (opened) (page 247)
3656 - Function prototypes for posix_fadvise() and posix_fallocate() missing in <fcntl.h> header file (opened) (page 248)
3642 - Add iswalnum(), iswalpna() ... (and 18 others) to <wchar.h> header (opened) (page 249)
3635 - Remove #if defined(_CYGWIN_) from complex.h header file (opened) (page 250)
3628 - moxie/moxiesim rtems-syms unknown machine type (opened) (page 251)
3610 - [UPDATE WIKI PAGE] TBR/Review/Debugging/Start (opened) (page 252)
3607 - Qemu build failure on Msys2 (opened) (page 255)
3582 - Remove dedicated support for boundary constraint in heap allocator (opened) (page 256)
3544 - Coverity flags use of uninitialized variable in e500-mmio.c (opened) (page 257)
3534 - Reduce uses of rtems_event_transient_send() (opened) (page 259)
3524 - Add a separate system initialization handler set for secondary processors (opened) (page 262)
3521 - JFFS2 has a year 2038 problem (opened) (page 263)
3515 - covoar failure while running for full test suites/ (opened) (page 264)
3462 - Convert covoar C code to C++ (opened) (page 266)
3448 - Add GCC, Binutils+GDB, Newlib mirrors to RTEMS github (opened) (page 267)
3441 - Add support in covoar to generate separate report for each symbol-set (opened) (page 272)
3440 - Add support in tester to run coverage on supported bsp without -coverage option (opened) (page 273)
3422 - Move nbench from examples-v2 to main RTEMS benchmarks (opened) (page 273)
3400 - dl06 error for powerpc/qoriq_e6500 unknown machine type (opened) (page 274)
3399 - dl06 error for moxie unknown machine type (opened) (page 275)
3372 - add tests for inttypes.h methods to RTEMS (opened) (page 275)
3371 - Add dirfd() and fdopendir() methods in dirent.h (opened) (page 277)
3356 - Add support for CLOCK_THREAD_CPUTIME_ID (opened) (page 278)
3355 - RSB build error: downloading expat-2.1.0.tar.gz (opened) (page 278)
3310 - zynq_uart_write_polled could produce a blocking scenario (opened) (page 279)
3282 - or1k GCC 4.9.3 and 5.3.0 do not build on FreeBSD 11 (opened) (page 280)
3276 - rtems-test: Add option to consume a log file and generate a report for it (opened) (page 280)
3252 - Add PowerPC support for libdebugger (opened) (page 282)
3241 - RSB sporadically fails when fetching rtems-tools (opened) (page 282)
3233 - Documentation has a number of warning that need fixing. (opened) (page 286)
3214 - non-blocking termios interface (opened) (page 286)
3208 - Update the RTEMS Porting Guide (opened) (page 288)
3206 - BSPs Wiki Page is Out of Date (opened) (page 289)
3186 - rtems_print_buffer() should follow rtems_printer pattern (opened) (page 291)
3156 - rtems-fdt probably not supported on 64-bit PowerPC (opened) (page 292)

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3155 - libdl not supported on 64-bit PowerPC (opened) (page 293)
3154 - Add recovery support for I2C bus (opened) (page 298)
3151 - Should Tests Be Added to .tcfg file Which Only Fail to Link with RTEMS Debug is Enabled? (opened)
3150 - SP 51 Test failure on Beaglebone Black (opened) (page 301)
3149 - SP 37 Test failure on Beaglebone Black (opened) (page 301)
3147 - DEBUGGER01 Test failure on Beaglebone Black (opened) (page 303)
3146 - FSJFFS2GC Test failure on Beaglebone Black (opened) (page 304)
3131 - Move more implementation details of mmap() to the file handlers (opened) (page 305)
3118 - fdt-shell uses char as index, gets warnings (opened) (page 305)
3110 - libbsd: openssl contains architecture-specific files (opened) (page 306)
3106 - Rate monotonic and timer delete broken in SMP configurations (opened) (page 307)
3081 - gcc 7.1 fails to build in TrueOS (aka FreeBSD 12-CURRENT #66 git ac2f0aa3b) (opened) (page 30)
3078 - Section 5.1. Prefixes is difficult to interpret (opened) (page 309)
3053 - Change RTEMS License to Two Paragraph BSD (opened) (page 34)
3050 - Buffer Overflow in pc386 Video Driver (opened) (page 310)
3039 - ppc/qemuprep: Qemu fails to boot, no boot partition found (opened) (page 311)
3034 - Convert all serial device drivers to use the new Termios device API (opened) (page 105)
3026 - Driver Manager Documentation (opened) (page 106)
2979 - Load rap files failure with zeroed sections (opened) (page 107)
2978 - Support for sigaction() sa_flags Values (opened) (page 109)
2974 - Enable search.h functionality in newlib (opened) (page 109)
2973 - Enable getdate() in newlib (opened) (page 110)
2926 - Coverity Reports Multiple Out of Bounds Accesses in rtd-mdreloc-sparc.c (opened) (page 111)
2892 - Use of C domain in shpinx documentation? (opened) (page 114)
2887 - gcc snapshot sources missing for older RTEMS Source Builder versions (opened) (page 116)
2866 - i386 status of libbsd is unknown (opened) (page 117)
2857 - Improve the I2C framework documentation (opened) (page 118)
2856 - Improve the SPI framework documentation (opened) (page 119)
2854 - What to do with the README files in the RTEMS sources? (opened) (page 120)
2834 - Cilk Plus support (opened) (page 126)
2793 - cpuuuse shell command documentation needs an update (opened) (page 129)
2791 - C++11 std::exception_ptr support (opened) (page 129)
2787 - Add support functions for UBSAN (GCC option -fsanitize=undefined) (opened) (page 130)
2786 - Remove the devfs in favor of a stripped down IMFS configuration (opened) (page 131)
2774 - RTEMS loaded by u-boot with dcache, icache and mmu enable does not boot. (opened) (page 133)
2763 - Incorrect exit if condition for capture_flags_global in cpukit/libmisc/capture/capture.c (opened) (p
2759 - Unlinking large files in RFS never ends (opened) (page 135)
2733 - raspberrypi: SPI driver has several flaws (opened) (page 136)
2716 - _POSIX_signals_Check_signal() may pass random data to sigaction handler (opened) (page 137)
2712 - _rtems_octal2ulong shared by tar code. (opened) (page 138)
2699 - RSB leak to check libz1g-dev and Python-dev (opened) (page 139)
2697 - Function for getting a time_t from a struct tm in UTC (like timegm on Linux and BSD) (opened) (p
2666 - RSB docs yum on way out .. use dnf (opened) (page 142)
2665 - Convert _TOD_To_seconds to use mktime? (opened) (page 143)
2635 - Promote pci_scan() to public shared PCI method (opened) (page 145)
2552 - Add per-section compilation and rtems dynamic linking support (opened) (page 146)
2540 - RSB has problems building into existing directory (opened) (page 151)
2506 - RTEMS Linker and Tester Wiki Confusion (opened) (page 165)
2492 - Delete https://devel.rtems.org/wiki/TBR/Delete/Documentation ? (opened) (page 167)

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2463 - <i>rtems-syms assumes that 4.11 tools are installed (opened)</i> (page 168)
2462 - <i>shared/gpio.c possible memory leaks (opened)</i> (page 170)
2434 - <i>general gpio.h is no longer installed leading to build breakage (opened)</i> (page 171)
2370 - <i>rtems/c/src/lib/libbsp/powerpc/mvme5500/network/if_1GHz/if_wm.c:1560: possible bad if ? (op</i>
2342 - <i>Doxygen does not include mscgen figures (opened)</i> (page 177)
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Merge Requests Summary

1068 - <i>README: Rename and convert to markdown</i> (page 320)
429 - <i>cpukit/termios: Fix ordering of baud rate table</i> (page 321)
428 - <i>Backport 5.4: grlib/occan: Fix baud rate calculation</i> (page 322)
419 - <i>gitlab: Add link to CI</i> (page 323)
366 - <i>Backport 5.4: bsp/shared: NS16550 driver updates the line control register during operation</i> (page 324)

1.5.1 Issues

1.5.1.1 5494 - Move README to README.md for the 5 branch

Id	5494
State	closed
Type	ISSUE
Author	Chris Johns
Closed by	Kinsey Moore
Created	2026-02-20T00:13:52.412Z
Closed	2026-02-20T00:32:08.851Z
Updated	2026-02-20T00:32:09.063Z
Milestone	5.4
Labels	release
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/5494
Merges	0

Move README to README.md on the 5 branch so the release scripts do not need to manage both file formats.

Author: Chris Johns	2026-02-20T00:13:52.562Z

added rtems#14 as parent epic

Author: Chris Johns	2026-02-20T00:13:52.659Z

set status to **To do**

Author: Kinsey Moore 2026-02-20T00:30:04.896Z

mentioned in merge request [!1068](#)

Author: Kinsey Moore 2026-02-20T00:32:08.915Z

set status to **Done**

1.5.1.2 5219 - Backport 5.4: grlib/occan: Fix baud rate calculation

Id	5219
State	closed
Type	ISSUE
Author	Jan Sommer
Assignee(s)	Gedare Bloom
Closed by	Kinsey Moore
Created	2025-02-20T10:22:45.231Z
Closed	2025-02-20T22:37:30.951Z
Updated	2025-09-19T00:38:39.209Z
Milestone	5.4
Labels	backport, grlib
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/5219
Merges	0

Summary

Backport of <https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/5166>.

We have a GR712RC and use the `_occan_` lib for the operation of the CAN core, but had weird results regarding the measured baud rate when calling `occanlib_set_speed`. We used the current RCC from Gaisler and the `rtems-occan` example for testing.

There are 2 errors in the code:

1.5.1.2.1.1 BRP not correctly calculated

In the data sheet of the GR712RC it states:

`!`grafik </-/project/26/uploads/d47f1150b72c68868a5c6ad9caff39e0/grafik.png>`_`

```
1 /* calculate scaler */
2 tmp = ((br->divfactor + tseg) * baud);
3 sc = (core_hz * 2) / tmp - core_hz / tmp;
```

Which is the same as `sc = core_hz / tmp`, so the division by 2 of the core is not correctly calculated.

1.5.1.2.1.2 BTR1 register values not correct

From the GR712RC manual the following formulas are given for the TSEG values of the BTR1 register:

!` grafik </-/project/26/uploads/b3ac335f090f39ab51e8d4194bdfe111/grafik.png>` _

However, `occanlib_set_speed` eventually calls `glib_canbtrs_calc_timing` which returns the full TSEG values (including the +1). The subsequent call to `convert_timing_to_btrs` writes these values to the registers without subtracting the +1, resulting in two time segments to many.

Steps to reproduce

- Call `occanlib_set_speed` (for example use `rtems-occan` of the RCC as a base).
- Observe the written register values in `GRMON`
- Measure baud rate on oscilloscope and compare with desired value

Expected behaviour

Correct baud rate measured.

1.5.1.2.3.1 Pre-set options

Author: Jan Sommer 2025-02-20T10:24:29.351Z

mentioned in merge request [!428](#)

Author: Gedare Bloom 2025-02-20T21:39:52.060Z

Author: Gedare Bloom 2025-02-20T21:42:16.607Z

assigned to @gedare

Author: Kinsey Moore 2025-02-20T22:37:30.621Z

The backport MR has been merged.

1.5.1.3 5220 - Backport 5.4: Termios: cannot set all baud rates with `rtems_termios_set_best_baud()`

Id	5220
State	closed
Type	ISSUE
Author	Jan Sommer
Assignee(s)	Gedare Bloom
Closed by	Kinsey Moore
Created	2025-02-20T10:29:40.149Z
Closed	2025-02-20T22:37:38.322Z
Updated	2025-02-20T22:37:38.336Z
Milestone	5.4
Labels	backport, cpukit
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/5220
Merges	0

Summary

Backport of <https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/5162>

`rtems_termios_set_best_baud()` cannot set all Baudrates, because `rtems_termios_baud_table` is unsorted.

Steps to reproduce

https://gitlab.rtems.org/rtems/rtos/rtems/-/blob/main/cpukit/libcsupport/src/termios_baudtable.c?ref_type=heads https://gitlab.rtems.org/rtems/rtos/rtems/-/blob/main/cpukit/libcsupport/src/termios_setbestbaud.c?ref_type=heads#L43

The algorithm in `rtems_termios_set_best_baud()` successively iterates over the elements of the `rtems_termios_baud_table` and searches for a fitting baud rate (checking by “is element lower than the baud parameter, then checks the next element, ...).

The table of baud rates is not sorted correctly from a certain point on, therefore the algorithm for choosing the optimal baud rate does not work for every baud rate.

e.g. if the input is 7200 (which is in the table) the search terminates at 9600 as that is larger, the last entry was 4800, so in the check it sets it to either of those, but not the 7200.

We observed it when we entered 38401 (due to measurement errors on the hardware was a bit larger). We identified the search ending at 57600 and it ended using the last = 28800.

1.5.1.3.2.1 Pre-set options

Author: Jan Sommer 2025-02-20T10:30:38.168Z

mentioned in merge request [!429](#)

Author: Jan Sommer 2025-02-20T12:07:11.315Z

changed title from **Backport 5.4:** to **Backport 5.4:{+ Termios: cannot set all baud rates with ``rtems\_termios\_set\_best\_baud()`` +}**

Author: Gedare Bloom 2025-02-20T21:43:47.285Z

assigned to @gedare

Author: Gedare Bloom 2025-02-20T21:43:51.167Z

Author: Kinsey Moore 2025-02-20T22:37:38.045Z

The backport MR has been merged.

1.5.1.4 3791 - POSIX Message Queue thread release order is not priority based (opened)

Id	3791
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-08-29T16:44:48.000Z
Updated	2026-02-20T19:10:56.555Z
Milestone	5.4
Labels	api::posix, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3791
Merges	0

Original author: Lou.Woods

Currently the POSIX Message Queue implementation will release threads blocked on all waiting calls in FIFO order. This is counter to the Open Group specification.

mq_receive() Description Paragraph 4: If more than one thread is waiting to receive a message when a message arrives at an empty queue and the Priority Scheduling option is supported, then the thread of highest priority that has been waiting the longest shall be selected to receive the message.

Source: http://pubs.opengroup.org/onlinepubs/9699919799/functions/mq_receive.html

Behavior tested on RTEMS 5 master xilinx_zynq_a9_qemu BSP

Tests demonstrating the behavior and a fix will be sent to the devel mailing list.

Author: Amar Takhar 2024-04-25T20:47:24.688Z

mentioned in issue [#3782](#)

Author: Chris Johns 2025-09-19T01:45:42.764Z

changed the description

Author: Gedare Bloom 2026-01-22T21:02:55.584Z

marked this issue as blocking rtems/programs/gsoc#88

Author: Xinhong Hu 2026-02-14T18:08:53.538Z

Hi @gedare @joel

I'm interested in working on this issue as a part of GSoC. I've been doing some debugging on RTEMS 7 (erc32-sim) and can confirm the problem still exists. Here's what I've done:

Initial observation:

In `cpukit/posix/src/mqueueopen.c`_`` I change `_CORE_MESSAGE_QUEUE_DISCIPLINES_FIFO`_`` to `'CORE_MESSAGE_QUEUE_DISCIPLINES_PRIORITY'`, but the behavior remained **FIFO** – a low-priority thread (20) blocked first, a high-priority thread (10) blocked second, and when a message was sent, the low-priority thread received it. My test code is below:

[posix_mq_priority_wakeup_test.c](#)

Verification:

I added runtime prints in `coremsgsubmit.c`_`` to confirm that the message queue operations are indeed set to priority versions:

```
ops.enqueue = 0x2008f5c (priority_enqueue)ops.extract = 0x2008a9c
(priority_extract)
```

Deep debugging with GDB:

I used `sparc-rtems7-gdb`_`` to set breakpoints in `_Thread_queue_Enqueue`_`` and `_Thread_queue_Extract_locked`_``, printing thread priority via `the_thread->Real_priority.priority`_``. The output was:

```
[Enqueue] thread addr: 0x02018408, priority: 490 (low-priority
thread) [Enqueue] thread addr: 0x02018c78, priority: 200
(high-priority thread) ... [Dequeue] thread addr: 0x02018408,
priority: 490
```

This shows:

1. Enqueue order: low-priority first, high-priority second.
2. Dequeue order: the first-enqueued (low-priority) thread is extracted → **FIFO** behavior, despite priority operations being used.

Conclusion:

The `priority_enqueue` function (likely `_Thread_queue_Enqueue_priority`_`` or a macro expansion) is

not inserting threads in priority order; it's simply appending to the tail.

My question:

I've looked for the implementation of the priority enqueue function but couldn't locate it. It might be hidden in macros or in ``threadqops.c``. Could you point me to the exact file/function that needs to be fixed? I'd like to contribute a patch and use this as part of my GSoC proposal (project [#88](#)).

Thank you for your guidance!

Author: Gedare Bloom 2026-02-14T18:08:53.498Z

Please discuss GSoC projects in the [User's Forum](#).

The prioritization for POSIX message queues is done when the message is sent, so trace through `mq_send` code path. This uses the message's priority however, and not the thread's priority.

Author: Xinhong Hu 2026-02-17T13:22:29.581Z

Hi @gedare,

Thank you for your guidance and for pointing me to the User's Forum for GSoC discussions. I have moved the discussion there as requested. For full details, including the corrected test code and output, I have posted a comprehensive report in the User's Forum: [GSoC 2026 : POSIX Message Queue thread release order is not priority based \(#3791\)](#)

Following your suggestion, I traced the `mq_send` path and revisited my test logic. I realized my initial misunderstanding of the POSIX-to-RTEMS priority mapping led to a flawed test setup. After correcting the test to ensure the lower RTEMS priority thread (mapped from POSIX 10) blocks first and the higher RTEMS priority thread (mapped from POSIX 20) blocks second, the message queue **does** wake the correct higher-priority thread. The only necessary change to guarantee POSIX compliance is setting the discipline to `CORE_MESSAGE_QUEUE_DISCIPLINES_PRIORITY` in `_POSIX_Message_queue_Create()` within `mqueueopen.c`, which I confirmed in my latest tests on RTEMS 7.

Thank you again for your help. Any further feedback would be greatly appreciated.

Author: Joel Sherrill 2026-02-17T21:46:57.537Z

I am glad you ran that down to the one place during initialization. The POSIX standard does not say much about thread priority and message queues. [mq_receive](#) has a little information referencing the "Priority Scheduling option." Searching the PDF of POSIX Issue 8, that phrase only occurs in `_mq_send()` and `_mq_receive()`. I think there is some terminology mixup. There is a section Priority Scheduling (2.8.4) in the background and `__POSIX_PRIORITY_SCHEDULING` is documented as an option.

Ignoring all that, I think your change is the right way to do what POSIX asks. But it locks RTEMS into having all POSIX MQs have priority blocking which is a behavior change from previous RTEMS versions. Having control over blocking discipline on a per instance basis would be better. `mq_setattr()` doesn't let you change message size or maximum on the fly – it has to be set at `_mq_create()` and this would be a similar attribute.

After all this writing, the simple change would be to add a field to `_mq_attr` for FIFO or priority blocking. Something like `_mq_ispriority` and the default would be FIFO and that would be a 0 value.

```
1 static const struct mq_attr _POSIX_Message_queue_Default_attributes = {  
2   .mq_maxmsg = 10,  
3   .mq_msgsize = 16  
4 };
```

That structure **should** initialize every field. :(

A grander idea which builds on adding discipline choice is having an application configuration option as found in `<rtems/confdefs.h>` which generates the default POSIX MQ attributes. This would replace this from `_mqopen.c`. This structure already has more fields than shown and could have another to specify if an MQ instance being created with `_mq_open()` is FIFO or priority blocking. The current default attributes structure is defined in `_mqueue.h` in the RTEMS source.

This sounds like a lot but just adding something like `_mq_ispriority` to `_mq_attr` is enough to give a lot more flexibility and make priority blocking an option to applications which want it on a per MQ instance basis.

I likely have written more English than code is required. And the grander idea may not be worth the trouble. @gedare thoughts?

Author: Gedare Bloom 2026-02-17T21:54:48.602Z

The distinction between the priority-based message delivery and priority-based thread receive is subtle. I think we just have to be a little bit careful and avoid causing confusion. We certainly don't want to break our existing practice. This would lead me to think that we want to make an application configuration to enable `mq_receive` with thread priority. I actually am unsure what the current behavior does. My intuition would be that the `mq_receive` is going to unblock the highest priority thread, not the FIFO thread, because the core implementation relies on the thread queues.

Author: Xinhong Hu 2026-02-20T18:49:18.416Z

Hi @joel , @gedare

Thank you for the thoughtful discussion. I've been prototyping the per-instance approach Joel suggested: adding an RTEMS-specific field `mq_ispriority` to struct `mq_attr`. This allows each queue to independently choose FIFO or priority wake-up order, with a default of FIFO to maintain backward compatibility. My tests on

RTEMS 7 confirm that setting `mq_ispriority = 1` correctly wakes a higher-priority thread that blocks later.

Regarding Gedare's point about application configuration: I think per-instance control already gives applications the ability to configure individual queues. However, to also support system-wide defaults, we could add a configuration macro in `<rtems/confdefs.h>` (e.g., `CONFIGURE_POSIX_MESSAGE_QUEUE_DEFAULT_DISCIPLINE`) that sets the initial value of `mq_ispriority` for queues created with a `NULL` attribute. This would allow integrators to change the global default without modifying each `mq_open` call, while still permitting per-queue overrides.

For my GSoC project, I propose to implement both the per-instance field and the global configuration option. The core deliverables would be:

1. Extend struct `mq_attr` with `mq_ispriority` (guarded by `#ifdef __RTEMS__`).
2. Modify `mq_open()` to interpret this field and pass the discipline to the core message queue.
3. Add a configuration macro in `<rtems/confdefs.h>` to set the default discipline.
4. Provide comprehensive tests and documentation.

I believe this scope is manageable within the GSoC timeframe and fully resolves [#3791](#) while offering flexibility for future needs. I'd appreciate your feedback on whether this plan aligns with your expectations. If you prefer a simpler approach (only per-instance or only global), I can adjust accordingly.

Thank you for your guidance!

Author: Gedare Bloom 2026-02-18T16:53:41.242Z

What do other operating systems do?

Author: Xinhong Hu 2026-02-18T16:53:41.156Z

Hi @gedare ,

Thank you for your guidance. I've investigated how FreeBSD and Linux implement POSIX message queues regarding thread wake-up order, and here's what I found:

****FreeBSD****

FreeBSD **explicitly follows the POSIX specification**. Its `mq_receive` man page states:

“If more than one thread is waiting to receive a message when a message arrives at an empty queue and the Priority Scheduling option is supported, then the **thread of highest priority that has been waiting the longest** will be selected to receive the message.” (Source: [FreeBSD 16.0-CURRENT man page](#))

Internally, FreeBSD **does not maintain an explicit waiting thread queue**; instead, it uses a simple counter (`mq_receivers`) and relies on the kernel scheduler to select the appropriate thread when a message arrives. This design naturally yields the POSIX-mandated behavior.

Linux:

Linux|md_0_8217|s implementation is more complex and **does not fully comply with the POSIX requirement**.

The waiting queue (`struct ext_wait_queue`) is a **linked list, but threads are inserted in priority order** (higher priority first). The insertion code (`wq_add` in `ipc/mqueue.c`) traverses the list and places a new thread **before the first thread with lower or equal priority**.

As a result, the list is sorted by descending priority, so when a message arrives, the **highest-priority thread** (the first in the list) is woken.

However, **within the same priority level, the insertion order is LIFO** (later waiters are placed ahead of earlier ones), so it does **not** guarantee that the longest-waiting thread is chosen.

This suggests that both FreeBSD and Linux prioritize threads by priority (Linux even within same priority uses LIFO rather than FIFO), aligning with the POSIX requirement to wake the highest priority thread. Linux's LIFO behavior for equal priorities may be a performance optimization but deviates from "longest waiting" part.

Given these examples, I think RTEMS's current FIFO behavior for waiting threads is a deviation, and our proposal to add a priority-based discipline (either globally or per-queue via ```mq_attr```) would bring us closer to what other systems implement and what POSIX intends.

I'd appreciate any further thoughts on this.

Author: Joel Sherrill 2026-02-20T19:10:56.521Z

Your survey looks good. I would say Linux is not compliant since it is using LIFO. And unfortunately, POSIX gives us the "if you support the `__POSIX_PRIORITY_SCHEDULING` **option**" then the blocking discipline for all message queues changes. This is a system implementation decision so there really is not portability. You cannot control what behavior your application is going to get.

I think as a minimum, RTEMS should support a configuration option to toggle between FIFO and priority. If we don't do that much, then existing applications will have a change in behavior that will break backwards compatibility.

Adding a field to `_mq_attr` gives the user fine grained control on each message queue instance.

I think adding an `_mq_is_priority` to out `_mq_attr` structure is a good move. And giving the user a way to define their own default `_mq_attr` instance allows them change each entry in the default structure. It would let them also override maximum message size and maximum pending messages. It would take adding to `confdefs.h` a macro default for each field in the structure and another to turn on using them. The current default attributes could be a weak symbol that is overridden.

I think this solution may also be needed for POSIX semaphores. They have the same language for the `__POSIX_PRIORITY_SCHEDULING` option

1.5.1.5 3824 - SMP for Ultrascale+ in ARMv7/AArch32 mode via JTAG (opened)

Id	3824
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-11-20T21:41:30.000Z
Updated	2026-02-07T16:16:44.338Z
Milestone	5.4
Labels	arch:arm, old-indefinite, priority::normal, tickettype::defect, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3824
Merges	0

Original author: maxp60

Hi, i have successfully kicked the second APU on ultrascale+ ZCU102, but both processors are looping inside the function `Per_CPU_State_wait_for_non_initial_state()`. I think something is missing in the configuration/initialization. has the SMP code been tested in A53 running AArch32 state (i.e. the Zynq U+ from xilinx) ?

- [Capture.PNG](#)

Author: Trac Migrate 2019-11-22T15:02:37.000Z

Original author: maxp60

In case both processors loop in this function, then this is probably a problem with the cache, MMU, or memory controller setup. Which state to the processor see and which state do they expect?

Author: Trac Migrate 2019-11-22T21:39:24.000Z

Original author: maxp60

I must include some other infos. The system is initialized through the debugger (JTAG mode) , APU0 load the [fsbl@aarch32](#), load the programmable logic and then is brokened @ `fsbl_loop()`. Then the debugger stores the following instruction into OCM: (AR# 46911) `0xFFFFFFFF00: mvn r0, #15` `0xFFFFFFFF04: mov r1 0xFFFFFFFF08: str r1, [r0]` `0xFFFFFFFF0C: wfe` `0xFFFFFFFF10: ldr r2, [r0]` `0xFFFFFFFF14: cmp r2, r1` `0xFFFFFFFF18: beq 0xc` `0xFFFFFFFF1C: mov pc`

then the debugger loads the smp examples to ram, and start both the processor. APU0 start the second processor and wait inside the function `Per_CPU_State_wait_for_non_initial_state()`. APU1 start executing the `_start` normally and the stalls into the function `Per_CPU_State_wait_for_non_initial_state()`. i can upload the lauterbach trace if necessary -M

Author: Trac Migrate 2019-11-23T09:18:52.000Z

Original author: maxp60

By the way it is not clear how the two APUs signals its ready to run...

Author: Trac Migrate 2019-11-25T06:35:22.000Z

Original author: maxp60

The higher level SMP start assumes that the mutable data is cache-coherent. For the CPU states see:

<https://git.rtems.org/rtems/tree/cpukit/include/rtems/score/percpu.h#n96>

Author: Trac Migrate 2019-12-12T19:23:46.000Z

Original author: maxp60

What variable/register is shared and in what source file cache snooping is enabled. any other idea?

Author: Trac Migrate 2019-12-13T06:01:52.000Z

Original author: maxp60

Sorry, I am currently busy with other things and I soon go on holidays.

Author: Trac Migrate 2019-12-13T06:02:57.000Z

Original author: maxp60

- **Milestone** set to %”Indefinite”
- **Version** set to ~”5”

Author: Trac Migrate 2019-12-15T17:36:52.000Z

Original author: maxp60

- **Attachment** [Capture.PNG](#) added

Author: Trac Migrate 2019-12-15T17:40:17.000Z

Original author: maxp60

It appears that `bsp_start_clear_bss()` execution of APU1 clears the `_Per_CPU_Information` of both processors. disabling - but only for testing purpose - `_bsp_start_clear_bss()` doesn't solve the issue. Is there something missing of SMP in general? thanks

Author: Trac Migrate 2020-04-20T16:35:33.000Z

Original author: maxp60

Nobody is working in smp?

Author: Trac Migrate 2020-04-20T18:23:00.000Z

Original author: maxp60

Sorry, I don't have time to fix this very specific issue in my spare time.

<https://docs.rtems.org/branches/master/user/support/bugs.html#nobody-fixes-my-bug>

Author: Amar Takhar 2025-09-05T02:57:40.815Z

changed the description

Author: Kinsey Moore 2026-02-07T16:15:13.239Z

changed title from

SMP for Ultrascale

•

to

SMP for Ultrascale+

in ARMv7/AArch32 mode via JTAG

Author: Kinsey Moore 2026-02-07T16:16:44.310Z

I would recommend moving to the AArch64 BSP for this hardware. If you need to run with the existing ARMv7 ABI, the AArch64 ILP32 ABI variants are currently available in RTEMS 6 releases and will be available in RTEMS 7, although deprecated.

1.5.1.6 4003 - Zynq-7000 BSP: Support using OCM as cacheable memory (opened)

Id	4003
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-06-11T02:21:15.000Z
Updated	2026-02-07T15:51:27.169Z
Milestone	5.4
Labels	bsp, old-indefinite, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4003
Merges	0

Original author: jbrandmeyer-piq

Background: During normal startup, the ROM bootloader performs vendor-specific initialization of core 1, and then sits in a wait-for-event loop until a special value has been written to a specific address in OCM. In that state, the MMU has not yet been initialized and core 1 is treating OCM as Device memory.

By the time the RTEMS boot gets to `_CPU_SMP_Start_processor`, core 0's MMU has already been initialized with the application-defined memory map. I'd like to use the on-chip memory as inner cacheable memory in my application. In order to ensure that the kick address write actually becomes visible to core 1, a cache line flush of the affected line is necessary prior to sending the event that wakes up the other core.

I also added an invalidation prior to the kick-address write out of an abundance of caution. it shouldn't be necessary, but I had a hard time proving it definitively.

There are a plethora of cache maintenance functions available for the job in RTEMS. I picked an inline helper that operates directly on CP15. The code's commentary suggests that the L2 hasn't been initialized yet, and the higher-level `rtems_cache*_multiple_data_lines` API affects both L1D and L2. Also, I'm using inner-cacheable/outer-shareable memory attributes for OCM specifically because of where it sits in the SOC's busswork, so it turns out that we *never* need to flush L2 for that memory anyway.

This patch also works with the default memory map, which defines upper OCM as Device memory. It is harmless to perform a flush by modified virtual address to memory which is marked as Device memory.

- [0001-bsp-Support-cacheable-OCM-on-the-Zynq.patch](#)

Author: Trac Migrate 2020-06-11T02:21:47.000Z

Original author: jbrandmeyer-piq

- **Attachment** [0001-bsp-Support-cacheable-OCM-on-the-Zynq.patch](#) added

Patch implementing this enhancement

Author: Joel Sherrill 2021-12-17T17:03:27.000Z

Original author: jbrandmeyer-piq

- **Milestone** changed from %”6.1” to %”Indefinite”

Author: Amar Takhar	2025-09-05T02:57:43.424Z

changed the description

Author: Kinsey Moore	2026-02-07T15:51:27.142Z

Does RTEMS on Zynq7000 rely on TF-A/ATF to provide runtime services? This type of code would likely be resident in OCM if that is the case which would make at least part of OCM unusable for this purpose.

1.5.1.7 4443 - powerpc/motorola_powerpc BSPs build bootloader with -msoft-float (opened)

Id	4443
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-05-26T19:59:57.000Z
Updated	2026-01-19T20:29:55.785Z
Milestone	5.4
Labels	priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4443
Merges	0

Original author: anj

While working on the EPICS port to RTEMS-5 and trying to link an EPICS test application into a bootable binary for the mvme2100 BSP built with RTEMS-5.1, I get this error:

```

1 /usr/local/rtems-5.1/bin/powerpc-rtems5-ld: libComTestHarness uses hard float, /
   ↳usr/local/rtems-5.1/powerpc-rtems5/mvme2100/lib/bootloader.o uses soft float
2 /usr/local/rtems-5.1/bin/powerpc-rtems5-ld: failed to merge target specific data_
   ↳of file libComTestHarness

```

The libComTestHarness is the EPICS test application. I get the same error with the mvme2307 BSP, which is part of the same powerpc/motorola_powerpc BSP family as the mvme2100.

After investigation I found that a recent version of binutils has made linking soft-float code with hard-float an error instead of just emitting a warning, which may be why this problem hasn't come up before. I don't see that warning when I build for the mvme2100 with RTEMS-4.9.2 but the warning message may have been added more recently than the version of binutils used for that release.

This is coming from the AM_CFLAGS definition in c/src/lib/libbsp/powerpc/motorola_powerpc/bootloader/Makefile.am which includes the flag -msoft-float whereas all of the motorola_powerpc boards have an FPU as far as I know (none of the BSP config/*.cfg files provide that flag). Thus I first tried removing just that flag:

```

1 diff --git a/c/src/lib/libbsp/powerpc/motorola_powerpc/bootloader/Makefile.am b/c/
  ↪src/lib/libbsp/powerpc/motorola_powerpc/bootloader/Makefile.am
2 index 42b70544e6..1b4b95b14c 100644
3 --- a/c/src/lib/libbsp/powerpc/motorola_powerpc/bootloader/Makefile.am
4 +++ b/c/src/lib/libbsp/powerpc/motorola_powerpc/bootloader/Makefile.am
5 @@ -21,7 +21,7 @@ bootloader_SOURCES += ../../../../../../bsps/powerpc/
  ↪motorola_powerpc/bootloa
6 # Remove references to EABI when compiling bootloader
7 BOOTLOADER_CPU_CFLAGS=$(subst -msdata=eabi,, $(subst -meabi,, $(CPU_CFLAGS)))
8 AM_CPPFLAGS = -D__BOOT__ @RTEMS_CPPFLAGS@ @RTEMS_BSP_CPPFLAGS@
9 -AM_CFLAGS = -mrelocatable -msoft-float \
10 +AM_CFLAGS = -mrelocatable \
11 -mstrict-align -fno-builtin -Wall -mmultiple -mstring -O2 \
12 -fomit-frame-pointer -ffixed-r13 -mno-sdata $(BOOTLOADER_CPU_CFLAGS)
13 AM_CCASFLAGS = $(AM_CPPFLAGS) \

```

However that doesn't seem to be enough, the result gives this application build error instead:

```

1 /usr/local/rtems-5.1/bin/powerpc-rtems5-objcopy -O binary -R .comment -S_
  ↪libComTestHarness rtems
2 gzip -f9 rtems
3 /usr/local/rtems-5.1/bin/powerpc-rtems5-ld -o libComTestHarness.boot /usr/local/
  ↪rtems-5.1/powerpc-rtems5/mvme2100/lib/bootloader.o --just-
  ↪symbols=libComTestHarness -b binary rtems.gz -T /usr/local/rtems-5.1/powerpc-
  ↪rtems5/mvme2100/lib/ppcboot.lds -Map libComTestHarness.map
4 /usr/local/rtems-5.1/bin/powerpc-rtems5-ld: libComTestHarness: compiled normally_
  ↪and linked with modules compiled with -mrelocatable
5 /usr/local/rtems-5.1/bin/powerpc-rtems5-ld: failed to merge target specific data_
  ↪of file libComTestHarness

```

I don't have a good feel for exactly what the `-mrelocatable` flag is doing, but the documentation implied something like it is probably needed in this case. It also showed a similar but apparently more liberal `-mrelocatable-lib` flag. On applying this change and rebuilding the BSP I was able to get my EPICS build to succeed:

```

1 diff --git a/c/src/lib/libbsp/powerpc/motorola_powerpc/bootloader/Makefile.am b/c/
  ↪src/lib/libbsp/powerpc/motorola_powerpc/bootloader/Makefile.am
2 index 42b70544e6..92d6e21f40 100644
3 --- a/c/src/lib/libbsp/powerpc/motorola_powerpc/bootloader/Makefile.am
4 +++ b/c/src/lib/libbsp/powerpc/motorola_powerpc/bootloader/Makefile.am
5 @@ -21,11 +21,11 @@ bootloader_SOURCES += ../../../../../../bsps/powerpc/
  ↪motorola_powerpc/bootloa
6 # Remove references to EABI when compiling bootloader
7 BOOTLOADER_CPU_CFLAGS=$(subst -msdata=eabi,, $(subst -meabi,, $(CPU_CFLAGS)))
8 AM_CPPFLAGS = -D__BOOT__ @RTEMS_CPPFLAGS@ @RTEMS_BSP_CPPFLAGS@
9 -AM_CFLAGS = -mrelocatable -msoft-float \
10 +AM_CFLAGS = -mrelocatable-lib \
11 -mstrict-align -fno-builtin -Wall -mmultiple -mstring -O2 \
12 -fomit-frame-pointer -ffixed-r13 -mno-sdata $(BOOTLOADER_CPU_CFLAGS)
13 AM_CCASFLAGS = $(AM_CPPFLAGS) \

```

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```
14 - -mrelocatable -DASM $(BOOTLOADER_CPU_CFLAGS)
15 + -mrelocatable-lib -DASM $(BOOTLOADER_CPU_CFLAGS)
16
17 #
18 # CAUTION :
```

I don't have a VME chassis or an MVME2100 board at home with me to test with, but I hope to be able to check if the result boots and works properly once I get back into the office (which might be a few weeks though). I'm filing this ticket now to see if anyone else has come across or already solved this problem, and to see if the solution looks reasonable to those with more experience.

Any comments?

Author: Trac Migrate 2021-06-21T00:52:05.000Z

Original author: anj

Felix Kraemer from Gemini found a linker flag `--no-warn-mismatch` which seems to permit applications to be built against an unmodified BSP without getting the error, but that probably isn't the best solution in the long run. I have added that flag to the EPICS build system for the mvme2100 and mvme2700 (AKA mvme2307) BSPs since we have a release coming up, but I plan to work on a better fix to the RTEMS BSP bootloader files once I have access to my VME systems again.

Author: Chris Johns 2025-09-19T01:45:45.953Z

changed the description

Author: Andrew Johnson 2026-01-19T20:29:55.739Z

Original author here (anj on the old RTEMS trac), the previous comment looks like a summary (AI-written?) of the problem that I reported during the COVID-19 pandemic when we were forced to work from home.

As reported in the first comment above the EPICS build system now adds the `--no-warn-mismatch` linker flag to both mvme2100 and mvme2700 target builds, which is sufficient as a workaround for those boards. We're not looking for a further solution for this on RTEMS-5; if a better fix is developed for a future release (6.x or 7) I'd be happy to remove that linker flag though.

1.5.1.8 3053 - Change RTEMS License to Two Paragraph BSD (opened)

Id	3053
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2017-06-21T17:54:07.000Z
Updated	2025-10-10T20:35:37.435Z
Milestone	5.4
Labels	old-indefinite, priority::high, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3053
Merges	0

RTEMS has long used the GPL v2 with an exception that eliminated the viral nature of the license. There has been discussion amongst the core developers and primary submitters about switching to the “Two Paragraph BSD” license. The consensus was that it was time to change. One reason was that the RTEMS license was modeled on a license no longer used by GCC language run-times. Another was that the “Two Paragraph BSD” license is easier to explain and understand. But the major reason was that the RTEMS Project has never imposed any license conformance burden on end user projects. The BSD license family is much clearer about that intent.

An announcement was made at the December 2015 Flight Software Workshop (http://flightsoftware.jhuapl.edu/files/_site/workshops/2015/). The slides and video are available for that presentation. No specific date was given but the core developer consensus was that we needed to focus on the 4.11 branch and, subsequently, the 4.12 release branches being made. With the 4.12 branch imminent, it is now time to ensure there is a ticket to track this effort and work through the relicensing as quickly and accurately as possible.

The relicensing effort will involve multiple activities:

- update web content to include and recommend Two Paragraph BSD license
- update coding conventions to recommend Two Paragraph BSD license
- identify contributors for each file
- some work has been done on this
- obtain permission from contributors to relicense
- update files with new license
- generate reports on licenses associated with a particular build of RTEMS

The content on relicensing from the Flight Software Workshop presentation is captured here.

Original rationale for GPL v2 + exception * felt needed to establish a community * “stick” to encourage submissions * license was used by GCC language run-times

Rationale to switch * RTEMS has a strong community * users understand business value of submitting * we have explained the “carrot” * GPL v3 has soured some on GPL in general

Mechanics of Switching * Permission from each submitter must be obtained * permission obtained from top contributors * All contributors to a file must give permission before that file can

be relicensed * Web form with confirmation email to grant permission to relicense * Effort will be made to locate the “missing”

When Permission is Not Obtained * Some files may never be relicensed * If users fund, replacement may be written * Older BSPs and ports may be obsoleted and removed on technical grounds * These are the most likely to contain files to have contributors that are hard to find

Generation of License Report * We are considering marking files with Linux Foundation sponsored [<https://SPDX.org>] annotation * Standard annotation for open source licenses _ Examples: NASA-1.3, GPL-2.0 * Can annotate exceptions like current RTEMS license * Example: GPL-2.0-with-linking-exception * Tools exist to generate overall license reports * RTEMS would have to integrate one with build system

- [AmaanCheval-Permission.pdf](#)
- [AnthonyGreen-Permission.pdf](#)
- [CG-BSD2-relicensing.pdf](#)
- [EricNorum-Permission.pdf](#)
- [FernandoRuizCasas-Permission.pdf](#)
- [JakeJanovetz-Permission.pdf](#)
- [JayMonkman-Permission.pdf](#)
- [OAR-RelicenseToBSD-d2.pdf](#)
- [PetrBenes-Permission.pdf](#)
- [Rtems_Relicensing_IPR_2018-11-18.pdf](#)
- [TillStraumann-Permission.pdf](#)
- [Zustimmung Thomas D |md_0_246|rfler IMD an die RTEMS Foundation.pdf](#)

Author: Chris Johns 2017-08-14T00:55:55.000Z

- **Milestone** changed from %”5.0” to %”4.12.0”

Please review and update the milestone. Thanks.

Author: Joel Sherrill 2017-10-11T23:09:19.000Z

- **Milestone** changed from %”4.12.0” to %”Indefinite”

Author: Joel Sherrill 2018-08-07T21:11:13.000Z

- **Attachment** [OAR-RelicenseToBSD-d2.pdf](#) added

OAR Corporation letter granting permission to relicense

Author: Joel Sherrill 2018-08-07T21:14:51.000Z

A signed PDF from On-Line Applications Corporation (OAR) is attached to this ticket which grants the RTEMS Community permission to relicense current and future contributions. The text of the letter is as follows:

On-Line Applications Research Corporation (OAR) grants permission to the RTEMS Foundation to relicense its current and future contributions from our current license GPLv2 plus exception to the RTEMS license becoming the 2-Clause BSD License (<https://opensource.org/licenses/BSD-2-Clause>). OAR shall work with the RTEMS Foundation to facilitate this change in the license as soon as possible.

Author: Trac Migrate 2018-11-27T05:50:37.000Z

embedded brains has signed and sent a letter granting relicensing. Included are also letters from the individual developers: * Sebastian Huber * Christian Mauderer * Alexander Krutwig * Ralf Kirchner * Peter Rasmussen * Thomas Doerfler.

Author: Trac Migrate 2018-11-27T07:09:10.000Z

In [changeset:"c1864a0ad33907c5492d89ba447e227b92aad241/rtems" c1864a0a/rtems]:

```

1 Add LICENSE.BSD-2-Clause
2
3 Copied from:
4
5 https://spdx.org/licenses/BSD-2-Clause.html
6
7 The formatting is suitable for C/C++ source comments.
8
9 Update #3053.
```

Author: Trac Migrate 2018-12-02T16:19:29.000Z

Hesham Almatary has signed and sent the relicense letter

Author: Trac Migrate 2018-12-03T13:55:16.000Z

I grant permission to the RTEMS Foundation to relicense my current and future contributions from the current license GPLv2 plus exception to the RTEMS license becoming the 2-Clause BSD License.

Jiri Gaisler.

Author: Trac Migrate 2018-12-11T06:00:39.000Z

In [changeset:"617976759e5fdbe37098c4fff4cf972a868ea86a/rtems" 6179767/rtems]:


```

1 Remove white space at end of line
2
3 Update #3053.

```

Author: Gedare Bloom 2018-12-18T18:30:04.000Z

I sent in a letter to grant permission for re-licensing.

Author: Trac Migrate 2018-12-19T12:31:56.000Z

In [changeset:"cde5e8dc2bf4131d48428e1c311e038ff9923b1f/rtems" cde5e8d/rtems]:

```

1 LICENSE.BSD-2-Clause: Clarify copyright format
2
3 Update #3053.

```

Author: Trac Migrate 2018-12-19T12:32:00.000Z

In [changeset:"6164fd82c6033a8587e28dee9c9082dd11a08cf9/rtems" 6164fd8/rtems]:

```

1 Move COPYING file to LICENSE.GPL-2.0
2
3 Use the latest plain text formatting of the GPL-2.0 as published by the
4 FSF:
5
6 https://www.gnu.org/licenses/old-licenses/gpl-2.0.txt
7
8 The current RTEMS license refers to the GPL-2.0, so the source
9 distribution should ship a copy of the license.
10
11 Update #3053.

```

Author: Chris Johns 2019-04-09T05:22:26.000Z

I sent in a letter to grant permission for re-licensing.

Author: Trac Migrate 2019-04-09T12:34:13.000Z

I grant permission to the RTEMS Foundation to relicense my current and future contributions to the RTEMS public source to be relicensed to the 2-Clause BSD License.

Pavel Pisa

Author: Trac Migrate 2019-04-10T07:50:45.000Z

In [changeset:"f1eedbde523e77562078aab894504300f9c259a6/rtems" f1eedbd/rtems]:

```
1 bsp/xilinx-zynq: Relicense to BSD-2-Clause
2
3 Relicense contributions from Chris Johns, Christian Mauderer,
4 embedded brains GmbH, Joel Sherrill, OAR, Pavel Pisa, Ralf Kirchner, and
5 Sebastian Huber.
6
7 Update #3053.
```

Author: Trac Migrate 2020-02-12T15:12:47.000Z

In [changeset:"24851567c38f573e9176529e9ca431fbf80c6cef/rtems" 2485156/rtems]:

```
1 score: Split up objects allocation
2
3 Split up the different objects allocation methods into separate
4 functions. This helps to avoid a dependency on the workspace in case no
5 objects or a static set of objects is configured.
6
7 Change license to BSD-2-Clause according to file histories.
8
9 Update #3053.
10 Update #3835.
```

Author: Trac Migrate 2020-02-24T07:14:08.000Z

In [changeset:"d27e6304d0968e0826243a44dda7a09e0cb75dd4/rtems-docs" d27e630/rtems-docs]:

```
1 eng: Rework file template section
2
3 Update #3053.
```

Author: Trac Migrate 2020-02-25T11:33:45.000Z

In [changeset:"cadd8d18e316fe1fc2c91ae03e2b4ee89b07ef67/rtems" cadd8d1/rtems]:

```
1 config: Add <rtems/confdefs/obsolete.h>
2
3 Unify handling of obsolete configuration options. Remove comments and
```

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```

4 copyrightable content from the moved content. Use BSD-2-Clause license
5 for new file.
6
7 Update #3053.
8 Update #3875.

```

Author: Trac Migrate 2020-02-25T11:33:52.000Z

In [changeset:"f45d0b2f8e8037189ee4816628e2c0e13dfb50d6/rtems" f45d0b2f/rtems]:

```

1 config: Add <rtems/confdefs/bsp.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.

```

Author: Trac Migrate 2020-02-25T11:33:55.000Z

In [changeset:"0f8e139e14e569f7555a2a69d62bc5446b1bea30/rtems" 0f8e139e/rtems]:

```

1 config: Add <rtems/confdefs/percpu.h>
2
3 Remove comments and copyrightable content from the moved content. Use
4 BSD-2-Clause for new file according to file history of
5 <rtems/confdefs.h>.
6
7 Update #3053.
8 Update #3875.

```

Author: Trac Migrate 2020-02-25T11:33:59.000Z

In [changeset:"16082210d61d00ac83d1aa39055e8562755864ab/rtems" 1608221/rtems]:

```

1 config: Add <rtems/confdefs/libio.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.

```

Author: Trac Migrate 2020-02-25T11:34:02.000Z

In [changeset:"591e973662d6abf027c054bc5ed4eb16c964c92c/rtems" 591e9736/rtems]:

```
1 config: Add <rtems/confdefs/scheduler.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:06.000Z

In [changeset:"691b61498ed32cef1e83cd9917c8567329286cfa/rtems" 691b614/rtems]:

```
1 config: Add <rtems/confdefs/bdbuf.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:09.000Z

In [changeset:"03aff2cf85b514f34cba2e798928471795fd80be/rtems" 03aff2c/rtems]:

```
1 config: Add <rtems/confdefs/malloc.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Move the default configuration to library files so that application
7 configurations do not include the definitions for the default case.
8
9 Update #3053.
10 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:13.000Z

In [changeset:"1d35bf2a7fc15beb0249c011cd5ed246ce50f68d/rtems" 1d35bf2a/rtems]:

```
1 config: Add <rtems/confdefs/mcpi.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:17.000Z

In [changeset:"32561f5f5b9dc5bfc396e497da118eeaf3fb1867/rtems" 32561f5/rtems]:

```
1 config: Add <rtems/confdefs/clock.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:20.000Z

In [changeset:"fb0caca9bcd585376b31bd23f7b77275d7a134fb/rtems" fb0caca/rtems]:

```
1 config: Add <rtems/confdefs/newlib.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:23.000Z

In [changeset:"8f3419bd880f46e9c072d535d67dd98f5767ee7c/rtems" 8f3419b/rtems]:

```
1 config: Add <rtems/confdefs/extensions.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:27.000Z

In [changeset:"b15d1cba0ff0acead2650c7a3df6f75eefccafa6/rtems"
b15d1cb/rtems]:

```
1 config: Add <rtems/confdefs/inittask.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:30.000Z

In [changeset:"831493390778064f0881e55bd965ac25cfc34df1/rtems"
8314933/rtems]:

```
1 config: Add <rtems/confdefs/initthread.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:34.000Z

In [changeset:"fe84ab5c6cd612538970e4ace1aad850a4b26d0c/rtems"
fe84ab5/rtems]:

```
1 config: Add <rtems/confdefs/console.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:37.000Z

In [changeset:"7b6596f56fe9e453047a446ca34ec050cf23cbc6/rtems"
7b6596f5/rtems]:

```
1 config: Add <rtems/confdefs/iodrivers.h>
2
```

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```

3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.

```

Author: Trac Migrate 2020-02-25T11:34:41.000Z

In [changeset:"40db0518a9893fbeat95a8fb1691aff94244f6bf/rtems" 40db051/rtems]:

```

1 config: Add <rtems/confdefs/unlimited.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.

```

Author: Trac Migrate 2020-02-25T11:34:44.000Z

In [changeset:"f5a2fd8628f3c432ee75e8964b00eb66c6f4a1f7/rtems" f5a2fd86/rtems]:

```

1 config: Add <rtems/confdefs/threads.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.

```

Author: Trac Migrate 2020-02-25T11:34:48.000Z

In [changeset:"d20209b06578c3fdfab3eee892dcfbdb6bf64620/rtems" d20209b/rtems]:

```

1 config: Add <rtems/confdefs/objectsclassic.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.

```

Author: Trac Migrate 2020-02-25T11:34:51.000Z

In [changeset:"35e58c45f73239ac40abd09d6fbe40104acb89ae/rtems" 35e58c45/rtems]:

```

1 config: Add <rtems/confdefs/wkspacesupport.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:55.000Z

In [changeset:"1fb1cf1a3a61021790a9cc438a150e4141b5a386/rtems" 1fb1cf1/rtems]:

```

1 config: Add <rtems/confdefs/objectsposix.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:59.000Z

In [changeset:"a78495eda2d8ef6653a06222f9786b51f722efab/rtems" a78495ed/rtems]:

```

1 config: Add <rtems/confdefs/wkspace.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Change licence of <rtems/confdefs.h> to BSD-2-Clause according to file
7 history.
8
9 Update #3053.
10 Close #3875.
```

Author: Trac Migrate 2020-03-04T08:46:40.000Z

In [changeset:"7e3b5c0ced72ea6ffc79986d26bd9184c61888fa/rtems" 7e3b5c0/rtems]:

```

1 console: Use IMFS_add_node() for simple console
2
```

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```

3 Change license to BSD-2-Clause according to file history.
4
5 Update #3053.
6 Update #3894.

```

Author: Trac Migrate 2020-03-04T08:46:44.000Z

In [changeset:"fa3005f6c1ddb99347acb70cbaecd155ed0356ed/rtems"fa3005f/rtems]:

```

1 console: Use IMFS_add_node() for simple task cons
2
3 Change license to BSD-2-Clause according to file history.
4
5 Update #3053.
6 Update #3894.

```

Author: Trac Migrate 2020-03-06T14:13:14.000Z

I grant permission to the RTEMS Foundation to relicense my current and future contributions from the current license GPLv2 plus exception to the RTEMS license becoming the 2-Clause BSD License.

Kuan-Hsun Chen

Author: Trac Migrate 2020-08-31T14:21:44.000Z

In [changeset:"c7e30854f284a17200892ce8e5405744e3c46c24/rtems"c7e3085/rtems]:

```

1 rtems: Add _RTEMS_Name_to_id()
2
3 Simplify object name to identifier directives. Using
4 _RTEMS_Name_to_id() to implement the directives enables a tail call
5 optimization.
6
7 Change license to BSD-2-Clause according to file history.
8
9 Update #3053.

```

Author: Trac Migrate 2020-09-18T16:57:09.000Z

In [changeset:"0b410b8ac75b829dca7651163da904c1a099351b/rtems"0b410b8a/rtems]:

```

1 rtems: Generate <rtems.h>
2
3 Change license to BSD-2-Clause according to file history and
4 documentation re-licensing agreement.
5
6 Update #3053.
7 Update #3899.
8 Update #3993.

```

Author: Trac Migrate 2020-09-22T07:44:34.000Z

In [changeset:"d9bdf166644f612dd628fe4951c12c6f8e94ba5f/rtems"d9bdf166/rtems]:

```

1 rtems: Install missing header file
2
3 Update #3053.

```

Author: Trac Migrate 2020-09-28T05:18:13.000Z

In [changeset:"2c09f54fc41b86265af137716013bce2e2e92b27/rtems"2c09f54f/rtems]:

```

1 score: Add <rtems/score/coremsgbuffer.h>
2
3 Move the CORE_message_queue_Buffer definition to a separate header file.
4 to be
5 able to use it independent of the remaining Message Queue Handler API.
6
7 Change license to BSD-2-Clause according to file history.
8
9 Update #3053.
10 Update #4007.

```

Author: Trac Migrate 2021-02-09T06:53:35.000Z

I grant permission to the RTEMS Foundation to relicense my current and future contributions from the current license GPLv2 plus exception to the RTEMS license becoming the 2-Clause BSD License.

Author: Trac Migrate 2021-02-09T07:19:33.000Z

In [changeset:"570992dc27543d8e1c8ed13596a4cd66439a86a1/rtems"570992dc/rtems]:

```

1 bsp/riscv: Re-license to BSD-2-Clause
2
3 Change license to BSD-2-Clause according to file history.
4
5 Update #3053.

```

Author: Trac Migrate 2021-04-20T17:18:39.000Z

In [changeset:"d8a5e140ec44a5e45cf82d3759a339e9dedced56/rtems"d8a5e14/rtems]:

```

1 libcsupport: Move rtems_malloc()
2
3 Move rtems_malloc() since it only depends on rtems_malloc(). This may
4 make it easier to customize the heap allocator.
5
6 Change licence to BSD-2-Clause according to file history.
7
8 Update #3053.

```

Author: Trac Migrate 2021-05-15T15:06:34.000Z

In addition to my permission regarding my contributions in the name of embedded brains, I also grant permission to the RTEMS Foundation to relicense my current and future contributions done in the name of IMD from the current license GPLv2 plus exception to the RTEMS license becoming the 2-Clause BSD License.

Thomas Doerfler.

Author: Trac Migrate 2021-05-17T15:30:54.000Z

In [changeset:"80b3c938ce9798997c59cc102fb6738475f6fe32/rtems"80b3c938/rtems]:

```

1 score: Move _Thread_queue_Queue_get_name_and_id()
2
3 Move this diagnostic function to a separate file since it does not
4 provide a core function of the system.
5
6 Change license to BSD-2-Clause according to file history and
7 re-licensing agreement.
8
9 Update #3053.

```

Author: Trac Migrate 2021-06-10T06:11:24.000Z

In [changeset:"93afc7b5360fa71616d789c4d34279309a24e9/rtems"93afc7/rtems]:

```

1 bsps/sparc: Simplify memory initialization
2
3 Directly initialize the memory in the start sequence defined by start.S
4 instead of using a system initialization handler. This avoids using the
5 global variable rdb_start which used a memory location which was shared
6 with _ERC32_MEC_Timer_Control_Mirror. This change makes it possible to
7 use _Memory_Allocate() even before the system initialization is started.
8
9 Change license to BSD-2-Clause according to file history and
10 re-licensing agreement.
11
12 Update #3053.
```

Author: Trac Migrate 2021-06-11T05:26:55.000Z

In [changeset:"fad01e6cf95f98adaca3157faa8b96c19296a68e/rtems"fad01e6c/rtems]:

```

1 score: Add PER_CPU_DATA_NEED_INITIALIZATION()
2
3 Make the initialization of the per-CPU data optional.
4
5 Change license to BSD-2-Clause according to file history and
6 re-licensing agreement.
7
8 Update #3053.
```

Author: Trac Migrate 2021-06-16T05:35:47.000Z

Hi,

For the files cpukit/score/src/schedulerstrongapa.c, and cpukit/include/rtems/score/schedulerstrongapa.h the license has been changed to BSD-2-Clause according to file history and re-licensing agreement.

Update [<https://devel.rtems.org/ticket/3053>]

Author: Trac Migrate 2021-06-17T15:24:57.000Z

In [changeset:"3ee19b7ac3ff3c92dd9440eb11948c9d361ab346/rtems"3ee19b7a/rtems]:

```

1 bsps/irq: Change license to BSD-2-Clause
2
3 Change license to BSD-2-Clause according to file history and
4 re-licensing agreement.
```

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5
6 Update [#3053](#).

Author: Trac Migrate 2021-06-21T08:15:09.000Z

In [\[changeset:"8d4382ba34dfaf6a37b1f356625a29fad1a02bda/rtems"8d4382b/rtems\]](#):

1 bsp/irq: Change license to BSD-2-Clause
2
3 Change license to BSD-2-Clause according to file history **and**
4 re-licensing agreement.
5
6 Update [#3053](#).

Author: Trac Migrate 2021-06-24T10:30:23.000Z

In [\[changeset:"89c1e879c02054b8032a9a66103e20bd61156f75/rtems"89c1e879/rtems\]](#):

1 score: Move _ISR_Vector_table[] to separate file
2
3 The _ISR_Handler_initialization() does **not** touch the _ISR_Vector_
4 ↪table[]. Move
5 the definition of _ISR_Vector_table[] to a separate file.
6
6 Change license to BSD-2-Clause according to file history **and** re-
7 ↪licensing
8 agreement.
9 Update [#3053](#).

Author: Trac Migrate 2021-06-24T12:18:10.000Z

In [\[changeset:"6c23252cdd8ea63d0fe13d9f99b7befbf070fe80/rtems"6c23252/rtems\]](#):

1 Update Strong APA Scheduler
2
3 This change allows **for** the migration of higher priority tasks on the
4 arrival of a lower priority task limited by affinity constraints.
5
6 Change license to BSD-2-Clause according to file history **and**
7 re-licensing agreement.
8
9 Update [#3053](#).

Author: Trac Migrate 2021-07-28T17:06:42.000Z

In [changeset:"6e82e9e89ec2f0863013512b50f6a1cf8a0f58d3/rtems" 6e82e9e8/rtems]:

```
1 libcsupport: Consistent rtems_putc() output
2
3 Use the same function to output the '\\r\\n' combination produced by
4 rtems_putc(). Fix the format.
5
6 Change licence according to file history.
7
8 Update #3053.
```

Author: Trac Migrate 2021-09-06T10:20:59.000Z

In [changeset:"fbd0a3cec3096d8fe283c3ff05ebb5c0aafc95d9/rtems" fbd0a3ce/rtems]:

```
1 score: Move _Thread_Dispatch()
2
3 The _Thread_Dispatch() function was customized over time and now the
4 work is done by _Thread_Do_dispatch() and specialized wrappers. The
5 plain _Thread_Dispatch() is now only used in some CPU ports. Move it to
6 a separate file to avoid dead code in the general.
7
8 Change license to BSD-2-Clause according to file history and
9 re-licensing agreement.
10
11 Update #3053.
```

Author: Trac Migrate 2021-09-06T10:26:01.000Z

In [changeset:"f958d58a6a98cbc111c4e3eb58a4170ce725a915/rtems" f958d58/rtems]:

```
1 score: Split up rbtreenext.c
2
3 Split up rbtreenext.c since only _RBTREE_Minimum() is used by the
4 ↪ operating
5 system core services (thread queues and the EDF scheduler).
6
7 Change license to BSD-2-Clause according to file history and re-
8 ↪ licensing
9 agreement.
10
11 Update #3053.
```

Author: Trac Migrate 2021-09-21T08:25:42.000Z

In [changeset:"0036ddf1f6263c3d352645f4d3a9afe4ba388bb2/rtems" 0036ddf/rtems]:

```

1 score: Provide two thread pin/unpin defaults
2
3 The uniprocessor schedulers do not support systems with more than more
4 processors. So they rivially support thread pinning and thus the
5 SMP_FATAL_SCHEDULER_PIN_OR_UNPIN_NOT_SUPPORTED cannot happen.
6
7 Add a second default implementation for SMP schedulers which do not
8 support thread pinning.
9
10 Change license to BSD-2-Clause according to file history and re-
11 ↪licensing
12 agreement.
13 Update #3053.
```

Author: Trac Migrate 2021-11-30T08:32:07.000Z

In [changeset:"b070e0127d0fe0b6ccf972e1605b6e43d4a4cbf5/rtems" b070e012/rtems]:

```

1 wkspc.c: Change license to BSD-2-Clause
2
3 Change licence according to file history.
4
5 Update #3053.
```

Author: Trac Migrate 2021-11-30T08:32:20.000Z

In [changeset:"d7205f0083f8fdd0408404ce99c6eab9b8d120c7/rtems" d7205f0/rtems]:

```

1 libc: Optimize malloc() initialization
2
3 The BSPs provide memory for the separate C Program Heap initialization
4 via _Memory_Get(). Most BSPs provide exactly one memory area. Only two
5 BSPs provide more than one memory area (arm/altera-cyclone-v and
6 bsp/powerpc/mpc55xxevb). Only if more than one memory area is
7 provided, there is a need to use _Heap_Extend(). Provide two
8 implementations to initialize the separate C Program Heap and let the
9 BSP select one of the implementations based on the number of provided
10 memory areas. This gets rid of a dependency on _Heap_Extend(). It
11 also avoids dead code sections for most BSPs.
```

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```

12
13 Change licence to BSD-2-Clause according to file history.
14
15 Update #3053.

```

Author: Trac Migrate 2022-02-24T23:06:44.000Z

In [changeset:"10114848675df9a28f6d733616bcc9fd4ee865ea/rtems" 1011484/rtems]:

```

1 score/src/schedulersimple*.c: Replace found in found in with found in
2
3 Updates #3053.

```

Author: Trac Migrate 2022-02-28T16:19:03.000Z

In [changeset:"ab028244174dc55ca68ad6e8be5d2490b093de5c/rtems" ab02824/rtems]:

```

1 score/src/[a-m]*.c: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-02-28T16:19:06.000Z

In [changeset:"4a0e418024c864c59894c833a9dc9ba7cd82762e/rtems" 4a0e418/rtems]:

```

1 score/src/[n-s]*.c: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-02-28T16:19:10.000Z

In [changeset:"2a1449c51751d8a642def2f7b9351b7c99e88009/rtems" 2a1449c/rtems]:

```

1 score/src/[t-z]*.c: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-02-28T16:19:14.000Z

In [changeset:"7ebce3590227e61e0cbf037b1229d164d879b132/rtems" 7ebce359/rtems]:


```

1 cpukit/include/rtems/score/[a-r]*.h: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-02-28T16:19:18.000Z

In [changeset:"7b85efb8c4543637be30e829a359d7eab44d2aaa/rtems" 7b85efb8/rtems]:

```

1 cpukit/include/rtems/score/[s-z]*.h: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-02-28T16:19:21.000Z

In [changeset:"c4fb6170305997a8baa2ddbf12b8ef28f844835b/rtems" c4fb617/rtems]:

```

1 cpukit/rtems/src/[a-r]*.c: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-02-28T16:19:25.000Z

In [changeset:"b3b6d21e6f4747a5449560cafb0ec855c0c4d9a/rtems" b3b6d21e/rtems]:

```

1 cpukit/rtems/src/[s-z]*.c: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-02-28T16:19:29.000Z

In [changeset:"a2ed06e38f94ea8d2b575de4725eae030d7664a1/rtems" a2ed06e/rtems]:

```

1 cpukit/include/rtems/rtems/*.h: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-02-28T16:19:33.000Z

In [changeset:"0a645dadd5655d2deac4e9017051d1124848a6f9/rtems" 0a645dad/rtems]:

```
1 cpukit/posix/src/[a-o]*.c: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-02-28T16:19:36.000Z

In [changeset:"380fb9fb914fbc5043b75981834fd665af2e84fd/rtems" 380fb9f/rtems]:

```
1 cpukit/posix/src/[p-z]*.c: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-02-28T16:19:40.000Z

In [changeset:"fee27716f0dae47dabb39db7abdfab156c241499/rtems" fee2771/rtems]:

```
1 posix/src/_execve.c: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-02-28T16:19:43.000Z

In [changeset:"46a16ada0c625472978f71ef12f5f1f6a0e4b8d7/rtems" 46a16ada/rtems]:

```
1 cpukit/include/rtems/posix/*.h: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-02-28T16:19:47.000Z

In [changeset:"bd2e898c9e580c2ccaa8d4a6c74df70f03f912eb/rtems" bd2e898/rtems]:

```
1 sapi/src/*.c: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-02-28T16:19:50.000Z

In [changeset:"e47a3b758fab9cff878aecb2204b87d4209a81d9/rtems" e47a3b7/rtems]:

```
1 score/cpu/arm: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-02-28T16:19:54.000Z

In [changeset:"f42730ae7a9408032eb0083579b338367814d0ce/rtems" f42730a/rtems]:

```
1 score/cpu/i386: Change license to BSD-2
2
3 sse_test.c was deliberately NOT changed.
4
5 Updates #3053.
```

Author: Trac Migrate 2022-02-28T16:19:57.000Z

In [changeset:"51366002f2a200c63bf329b8da9206b810de334e/rtems" 51366002/rtems]:

```
1 score/cpu/m68k: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-02-28T16:20:01.000Z

In [changeset:"bf10d5b9121367d9b082f0dbe9d6cce7a746fbde/rtems" bf10d5b/rtems]:

```
1 score/cpu/mips: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-02-28T16:20:04.000Z

In [changeset:"4b5e64ac0494f2ed1725ffcf8f19f2729c7a2356/rtems" 4b5e64a/rtems]:

```
1 score/cpu/nios2: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-02-28T16:20:08.000Z

In [changeset:"3ca8895f3a7b3ca39113fb53377a6d06e1aed2a5/rtems"3ca8895f/rtems]:

```
1 score/cpu/no_cpu: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-02-28T16:20:14.000Z

In [changeset:"87076c94d2cf59f46ce84fb0be156ed3bc770494/rtems"87076c9/rtems]:

```
1 score/cpu/powerpc: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-02-28T16:20:18.000Z

In [changeset:"e111974ab86b6172d51928554df37d65a3150ac8/rtems"e111974/rtems]:

```
1 score/cpu/sparc: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-02-28T16:20:24.000Z

In [changeset:"c0ec0b29e9a2a9d9c7ab8c70449c2c598ed4994e/rtems"c0ec0b29/rtems]:

```
1 score/cpu/v850: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-02-28T16:20:28.000Z

In [changeset:"2fb29836b0ccf370925f5900abe8fbda1c0f503e/rtems"2fb29836/rtems]:

```
1 cpukit/include/adainclude: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-02-28T16:20:32.000Z

In [changeset:"2dcc54f9c678a43d6f6c0a5bbdead68187411cce/rtems" 2dcc54f/rtems]:

```
1 cpukit/ftpd: Change license to BSD-2
2
3 Not all files could be changed.
4
5 Updates #3053.
```

Author: Trac Migrate 2022-02-28T16:20:35.000Z

In [changeset:"f381e9bab29278e4434b1a93e70d17a7562dc64c/rtems" f381e9b/rtems]:

```
1 cpukit/libblock: Change license to BSD-2
2
3 Updates #3053.
```

Author: Joel Sherrill 2022-03-02T21:36:59.000Z

- **Attachment** JakeJanovetz-Permission.pdf <JakeJanovetz-Permission.pdf>`_(/assets/tracmigration/ticket_attachments/JakeJanovetz-Permission.pdf) added

Permission email from Jake Janovetz

Author: Joel Sherrill 2022-03-02T21:37:36.000Z

Referenced permission from Jacob Janovetz via email. PDF is attached.

Author: Joel Sherrill 2022-03-03T19:34:36.000Z

- **Attachment** JayMonkman-Permission.pdf <JayMonkman-Permission.pdf>`_(/assets/tracmigration/ticket_attachments/JayMonkman-Permission.pdf) added

Permission email from Jay Monkman

Author: Joel Sherrill 2022-03-03T19:34:54.000Z

Referenced permission from Jacob Janovetz via email. PDF is attached.

Author: Trac Migrate 2022-03-05T00:50:07.000Z

I grant permission to the RTEMS Foundation to relicense all my contributions from the current license to the 2 clause BSD license.

Author: Joel Sherrill 2022-03-08T14:35:54.000Z

- **Attachment** [Rtems_Relicensing_IPR_2018-11-18.pdf](#) added

Permission from IPR (Peter Rasmussen) predecessor company to embedded brains GmbH

Author: Joel Sherrill 2022-03-08T14:36:19.000Z

- **Attachment** [Zustimmung Thomas D|md_0_246|rfler IMD an die RTEMS Foundation.pdf](#) added

Permission from IMD (Thomas Doerfler) predecessor company to embedded brains GmbH

Author: Joel Sherrill 2022-03-08T14:36:39.000Z

Add permission letters (PDF) for submissions for IMD and IPR. These were the companies Thomas Doerfler and Peter Rasmussen merged to form embedded brains GmbH.

Author: Joel Sherrill 2022-03-08T18:53:41.000Z

- **Attachment** [EricNorum-Permission.pdf](#) <EricNorum-Permission.pdf> `(_/assets/tracmigration/ticket_attachments/EricNorum-Permission.pdf) added

Permission email from Eric Norum

Author: Joel Sherrill 2022-03-08T18:54:46.000Z

Added PDF of permission email from Eric Norum.

Author: Joel Sherrill 2022-03-20T23:33:07.000Z

- **Attachment** [AnthonyGreen-Permission.pdf](#) <AnthonyGreen-Permission.pdf> `(_/assets/tracmigration/ticket_attachments/AnthonyGreen-Permission.pdf) added

Permission email from Anthony Green

Author: Joel Sherrill 2022-03-21T17:08:14.000Z

- **Attachment** [AmaanCheval-Permission.pdf](#) <AmaanCheval-Permission.pdf> `(_/assets/tracmigration/ticket_attachments/AmaanCheval-Permission.pdf) added

Permission email from Amaan Cheval

Author: Trac Migrate 2022-03-22T16:33:27.000Z

In [changeset:"a50839ffd83f6524f337a9805c5525aead4acd15/rtems"
a50839ff/rtems]:

```
1 cpukit/libdl/rtl-alloc-check.py: Change to BSD-2 by hand
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:33:32.000Z

In [changeset:"5a65257d0ccf58efa9833dc3e2bc80d669d92f2f/rtems"
5a65257d/rtems]:

```
1 cpukit/libdl Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:33:35.000Z

In [changeset:"72d83c61d4580a3ea2d6e1f6b6e739dbfd5d4ee3/rtems"
72d83c61/rtems]:

```
1 cpukit/libdrvmsg: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:33:40.000Z

In [changeset:"60060e695a038b2f1c35d6e42d2c70f0a2c6accd/rtems"
60060e6/rtems]:

```
1 cpukit/libfs/src/defaults: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:33:43.000Z

In [changeset:"5dec08934fe44c8483795147e3e6f9480660f099/rtems"
5dec089/rtems]:

```
1 cpukit/libdl: Manual file header reordering (SPDX, Doxygen, Copyright)
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:33:47.000Z

In [changeset:"67a5936f58f673118ba7f2b10fbae76172e6f464/rtems" 67a5936/rtems]:

```
1 cpukit/libfs/src/imfs: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:33:52.000Z

In [changeset:"4ad52d62fe1d3f8329edae4e99da5585c9f275cf/rtems" 4ad52d62/rtems]:

```
1 cpukit/libds/src/ftpfs/tftpDriver.c: Manually update license to BSD-2
2
3 Eric Norum granted permission plus git log archeology to get year for
4 his copyright.
5
6 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:33:56.000Z

In [changeset:"2830ee959baf461f8c30614f94e871e04b2ce131/rtems" 2830ee9/rtems]:

```
1 cpukit/libfs/src/rfs: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:34:00.000Z

In [changeset:"f083c84fe5ff60e17491bd4b99010de05b35d5d8/rtems" f083c84/rtems]:

```
1 cpukit/libgnat: Change license to BSD-2.
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:34:04.000Z

In [changeset:"1b33b9d0e5927a4be6d95744edd9e81500ca4173/rtems" 1b33b9d/rtems]:


```
1 cpukit/libpci: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:34:08.000Z

In [changeset:"1db3d3c3ee36655f4e606582c9c78d6b06934bd3/rtems" 1db3d3c/rtems]:

```
1 cpukit/libtest: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:34:11.000Z

In [changeset:"152ab750ca736ecd7e3119aa477889120de9eadd/rtems" 152ab750/rtems]:

```
1 cpukit/libmisc/bspcmdline: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:34:15.000Z

In [changeset:"1dc5ba2a4536578864168e5ba9af61b27931df0f/rtems" 1dc5ba2a/rtems]:

```
1 cpukit/capture: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:34:19.000Z

In [changeset:"4b7fbc7c44e86e09469d836aef5c9f158763a104/rtems" 4b7fbc7/rtems]:

```
1 cpukit/libmisc/capture: Manually change license to BSD-2
2
3 These files did not follow the standard format and needed to be
4 changed manually.
5
6 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:34:23.000Z

In [changeset:"f1470914fb3ee3b40a1a01e8ed832c3274b4356c/rtems" f147091/rtems]:

```
1 cpukit/libmisc/cpuuse: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:34:27.000Z

In [changeset:"183209b5e73913ac0c8f3c5ba6ca3afb732e4cc5/rtems" 183209b/rtems]:

```
1 cpukit/libmisc/devnull/devzero.c: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:34:31.000Z

In [changeset:"9723662214302c715990cb5dd7d26e204ae12c17/rtems" 97236622/rtems]:

```
1 cpukit/libmisc/dummy: Change license to BSD-2.
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:34:34.000Z

In [changeset:"3674288ad277a64854cf3159832c2824ecb8a1fe/rtems" 3674288/rtems]:

```
1 cpukit/libmisc/dumpbuf: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:34:38.000Z

In [changeset:"ccf8287197a8e1a5ea67f97a6049c52a01576b86/rtems" ccf82871/rtems]:

```
1 cpukit/libmisc/fsmount: Change license to BSD-2.
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:34:45.000Z

In [changeset:"903bba259f8281d2291c478a7d4a386cf89eba77/rtems"903bba25/rtems]:

```
1 cpukit/libmisc/mouse: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:34:49.000Z

In [changeset:"aa4c01027afc2ca087f6fc48217a6e45fa883a7b/rtems"aa4c0102/rtems]:

```
1 cpukit/libmisc/redirector: Manually change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:34:52.000Z

In [changeset:"c02836c485b5ad3543a7578a8d0ac64b7d05788e/rtems"c02836c/rtems]:

```
1 cpukit/libmisc/rtems-fdt: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:34:57.000Z

In [changeset:"50ec42c35339bdcfec4a925dd8a3916e3e1f0093/rtems"50ec42c/rtems]:

```
1 cpukit/libmisc/serdbg: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:35:01.000Z

In [changeset:"ed4200e7706d7abd248e86075776ada6efa1fccb/rtems"ed4200e/rtems]:

```
1 cpukit/libmisc/check: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-22T16:35:04.000Z

In [changeset:"fab1a86221e057a93bb9c1423dac81ed2b29ecde/rtems" fab1a86/rtems]:

```
1 cpukit/libmisc/untar: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-25T16:08:19.000Z

In [changeset:"e4cc56a7921b9d13d191a2f084ee1baf7a0b308e/rtems" e4cc56a7/rtems]:

```
1 cpukit/libmisc/monitor/: Manually change to BSD-2 license
2
3 This code did not have any copyrights or licenses and a bit
4 of archeology was needed to determine authorship.
5
6 This code was in the initial import into the RTEMS CVS repository when
7 it was established in May 1995. There was very little, if any, code not
8 written by OAR Corporation in that initial import. After discussion
9 with Chris Johns, it was determined that this code was from OAR
10 Corporation and that he had added a few features later. Both
11 Chris Johns and OAR Corporation have given permission to relicense.
12
13 Updates #3053.
```

Author: Trac Migrate 2022-03-25T21:45:57.000Z

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Author: Trac Migrate 2022-03-26T22:54:22.000Z

In [changeset:"35d1f9a238b469f065d3fa60ace1ed1cf765d8cd/rtems" 35d1f9a/rtems]:

```
1 cpukit/include/dev: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-03-26T22:54:26.000Z

In [changeset:"3ec0b2676d77a7d5d7094cd1a2b6d2d765023230/rtems" 3ec0b267/rtems]:

```

1 cpukit/include/linux: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-03-26T22:54:30.000Z

In [changeset:"fb5f575b9f991d400d7249898f51f7bc1b354165/rtems" fb5f575/rtems]:

```

1 cpukit/include/rtems: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-03-26T22:54:34.000Z

In [changeset:"77d1ac6c22e0a7485f587f01b7a30e79a46385a2/rtems" 77d1ac6c/rtems]:

```

1 cpukit/include/sys: Change license to BSD-2.
2
3 Updates #3053.

```

Author: Trac Migrate 2022-03-26T22:54:37.000Z

In [changeset:"3d43589812f992c4b056478607fe26565f9c9b75/rtems" 3d435898/rtems]:

```

1 cpukit/include/*.h: Change license to BSD-2
2
3 Updates #3053.

```

Author: Joel Sherrill 2022-03-27T15:51:21.000Z

- **Attachment** PetrBenes-Permission.pdf <PetrBenes-Permission.pdf> `(_/assets/tracmigration/ticket_attachments/PetrBenes-Permission.pdf) added

Permission email from Petr Benes

Author: Trac Migrate 2022-04-01T14:51:53.000Z

In [changeset:"ffaaae2cf5f028f779d62c0f7c932fbbbd8fd45d/rtems" ffaae2/rtems]:

```

1 cpukit/score/cpu/moxie: Change license to BSD-2
2
3 Permission received from Anthony Green.
4
5 Updates #3053.

```

Author: Trac Migrate 2022-04-01T14:51:57.000Z

In [changeset:"59fba6f520c9272c80370720978ae54bb49739e2/rtems" 59fba6f/rtems]:

```

1 cpukit/include/rtems/cbs.h: Change license to BSD-2
2
3 Permission received from Petr Benes
4
5 Updates #3053.

```

Author: Trac Migrate 2022-04-01T14:52:01.000Z

In [changeset:"54ec02640d4ef45fb6a2660c78f2600c4009aec6/rtems" 54ec0264/rtems]:

```

1 cpukit/include/rtems/timespec.h: Change license to BSD-2
2
3 Permission received from Krzysztof Miesowicz.
4
5 Updates #3053.

```

Author: Trac Migrate 2022-04-01T14:52:05.000Z

In [changeset:"d90e2dc1e844e051d335527098925b3f43d2624e/rtems" d90e2dc1/rtems]:

```

1 cpukit/libcsupport/src/[a-f]*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-01T14:52:08.000Z

In [changeset:"df1cb9f397cf2f739be006969669137ee270a652/rtems" df1cb9f/rtems]:

```

1 cpukit/libcsupport/src/[s-z]*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-01T14:52:12.000Z

In [changeset:"70432fcff208756f3df17c66c971e32d85e3be79/rtems" 70432fc/rtems]:

```
1 cpukit/libcsupport/src/[g-r]*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-01T14:52:16.000Z

In [changeset:"821e89dab2e26667660af8e54cdc0b7213e1fa28/rtems" 821e89d/rtems]:

```
1 cpukit/libcsupport/src/_*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-01T19:41:53.000Z

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Author: Joel Sherrill 2022-04-02T19:08:46.000Z

- **Attachment** [FernandoRuizCasas-Permission.pdf](#) <FernandoRuizCasas-Permission.pdf>`_(/assets/tracmigration/ticket_attachments/FernandoRuizCasas-Permission.pdf) added

Permission email from Fernando Ruiz Casas

Author: Trac Migrate 2022-04-05T18:03:54.000Z

In [changeset:"725101151c959f268819348f2abf2c6e7f66c0c4/rtems" 72510115/rtems]:

```
1 testsuites/sptests/sp0*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-05T18:03:56.000Z

In [changeset:"eb579662e4a0d0c7f7afeffaf81c9f0db3f178d8/rtems" eb57966/rtems]:

```

1 testsuites/sptests/sp1*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-05T18:03:59.000Z

In [changeset:"d987a57be4754e7fcc33190a460ce99684530d8f/rtems" d987a57/rtems]:

```

1 testsuites/sptests/sp[None..None](../compare/None...None)*: Change
  ↪ license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-05T18:04:01.000Z

In [changeset:"c50bb51b1925177f41b13151bc443a39622eeb67/rtems" c50bb51/rtems]:

```

1 testsuites/sptests/sp[None..None](../compare/None...None)*: Change
  ↪ license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-05T18:04:03.000Z

In [changeset:"e7d46b738cd5358bdf21ea9f8c10c6a40d0b7d4d/rtems" e7d46b73/rtems]:

```

1 testsuites/sptests/sp[a-f]*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-05T18:04:06.000Z

In [changeset:"0473b2b36a7a43058cffc9a47cc4dd07b03f82cb/rtems" 0473b2b3/rtems]:

```

1 testsuites/sptests/sp[g-r]*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-05T18:04:08.000Z

In [changeset:"d865c65efe78303e488be0f2d3124336fcbb4c50/rtems"
d865c65/rtems]:

```
1 testsuites/sptests/sp[s-z]*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-05T18:04:11.000Z

In [changeset:"ce8d47be726e82b9f26bf163ccf70708135c5a96/rtems"
ce8d47b/rtems]:

```
1 testsuites/sptests/sp[None..None](../compare/None...None)*/*.doc:↵
↵Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-05T18:04:13.000Z

In [changeset:"df6a7e0a1d02673502cf81e19745289a05ad97ab/rtems"
df6a7e0/rtems]:

```
1 testsuites/sptests/sp[a-h]*/*.doc: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-05T18:04:16.000Z

In [changeset:"3ed59872de94d7721deca11150e944651ad61290/rtems"
3ed5987/rtems]:

```
1 testsuites/sptests/sp[i-z]*/*.doc: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-06T22:04:29.000Z

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Author: Trac Migrate 2022-04-07T13:29:11.000Z

In [changeset:"42d4ebe1a5111d12d38d6357f37ed9a249ef0984/rtems"
42d4ebe/rtems]:

```

1 testsuites/mptests/*: Change license to BSD-2.
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-07T13:29:14.000Z

In [changeset:"b331f409a84f1bd8b54dcaea12411949cb9bee7e/rtems" b331f40/rtems]:

```

1 testsuites/tmtests/*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-07T13:29:16.000Z

In [changeset:"85cc173d6e74fe539ace5f3bfe1c7e17c9ab3bf5/rtems" 85cc173/rtems]:

```

1 testsuites/libtests/[a-c]*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-07T13:29:19.000Z

In [changeset:"366711fcfaff10eea66052bad2d59909e80c7e7b/rtems" 366711f/rtems]:

```

1 testsuites/libtests/dl*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-07T13:29:22.000Z

In [changeset:"1ef07d462094e0bd3939fc3737d323c0aac28c4d/rtems" 1ef07d46/rtems]:

```

1 testsuites/libtests/[d-o]*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-07T13:29:24.000Z

In [changeset:"acce478ecafdaa45cd0281aa307af6a0dce8a56/rtems" acce47/rtems]:

```

1 testsuites/libtests/[p-z]*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-07T13:29:26.000Z

In [changeset:"e2ffe959c5fae1b45fc4ad273dd9977335f1f014/rtems" e2ffe95/rtems]:

```

1 testsuites/fstests/*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-07T13:29:28.000Z

In [changeset:"74e532f1f67ed69fdb40d61159e4489fa34244ef/rtems" 74e532f/rtems]:

```

1 testsuites/smptests/*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Joel Sherrill 2022-04-08T17:21:52.000Z

- **Attachment** [TillStraumann-Permission.pdf](#) <TillStraumann-Permission.pdf> `(_/assets/tracmigration/ticket_attachments/TillStraumann-Permission.pdf) added

Permission email from Till Straumann

Author: Trac Migrate 2022-04-08T21:35:17.000Z

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Author: Trac Migrate 2022-04-09T16:52:12.000Z

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Eshan Dhawan

Author: Trac Migrate 2022-04-09T22:32:22.000Z

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Author: Trac Migrate 2022-04-12T18:32:18.000Z

In [changeset:"8d5eb7eba58f8a407e385e5d6b48dd3425f88f3d/rtems"
8d5eb7e/rtems]:

```
1 testsuites/ada/support/*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:32:21.000Z

In [changeset:"28052b744b402a1e36e5ab3b255189b72e795f97/rtems"
28052b7/rtems]:

```
1 testsuites/ada/samples/*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:32:24.000Z

In [changeset:"2df35d7e4dd01d5aa53e4d3cf3efe6bd23030c56/rtems"
2df35d7/rtems]:

```
1 testsuites/ada/sptests/sp0*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:32:26.000Z

In [changeset:"3d8f2a55a5a9a7969cf8371401823f0e8200f3ee/rtems"
3d8f2a5/rtems]:

```
1 testsuites/ada/sptests/sp1*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:32:28.000Z

In [changeset:"a767a2bacbf344898b82be658c387e3323e9b97d/rtems"
a767a2b/rtems]:

```

1 testsuites/ada/sptests/sp2*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-12T18:32:31.000Z

In [changeset:"20cec598c68ea1715ca37e26ebd6ce855cbc6f96/rtems" 20cec598/rtems]:

```

1 testsuites/ada/sptests/spatchb01, spname01: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-12T18:32:33.000Z

In [changeset:"37426caa67362f74117a8cf7d13760d064d2d9d2/rtems" 37426ca/rtems]:

```

1 testsuites/ada/tmtests/tm1*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-12T18:32:35.000Z

In [changeset:"61ac3ab09cd48e75236d53a9fed18f6161ef0217/rtems" 61ac3ab/rtems]:

```

1 testsuites/ada/tmtests/tm0*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-12T18:32:37.000Z

In [changeset:"2bf4acfc5081dc6c48d61667a9afc0e8f68fbf24/rtems" 2bf4acfc/rtems]:

```

1 testsuites/ada/tmtests/tm2*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-12T18:32:40.000Z

In [changeset:"b6656a0078a78384f044aeb0321eac015f517811/rtems" b6656a00/rtems]:

```

1 testsuites/ada/tmtests/tmck: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-12T18:32:42.000Z

In [changeset:"2c292f3ff903ae0a632a8a5d2fa73151266c62cc/rtems" 2c292f3/rtems]:

```

1 testsuites/ada/mptests/*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-12T18:32:45.000Z

In [changeset:"e19e650f31548971d693972b570932a37c467b76/rtems" e19e650/rtems]:

```

1 testsuites/benchmarks/*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-12T18:32:47.000Z

In [changeset:"ef9df16afaf8e1c12afdf253c5fca735c359ce2c/rtems" ef9df16a/rtems]:

```

1 testsuites/rmtests/tm[01]*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-12T18:32:49.000Z

In [changeset:"2c1d928fdc40d373724305c91b0d5e2927191167/rtems" 2c1d928/rtems]:

```

1 testsuites/tmtests/tm[23]*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-12T18:32:52.000Z

In [changeset:"04b6c51e0182a4dfd0c50f7ca2309f45b6e952fe/rtems" 04b6c51/rtems]:

```

1 testsuites/tmtests/ remainder: Change license to BSD-2
2
3 + include
4 + tmck
5 + tmfine01
6 + tmonetoone
7 + tmtimer01
8
9 Updates #3053.

```

Author: Trac Migrate 2022-04-12T18:32:54.000Z

In [changeset:"194d9ca5d2ef5acb5e9eb44a5fb50135c6cbd13b/rtems" 194d9ca5/rtems]:

```

1 testsuites/tmtests/*/*.py: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-12T18:32:56.000Z

In [changeset:"e0d673639b3bd145c35725d5b3d5510111d1af14/rtems" e0d6736/rtems]:

```

1 testsuites/support/*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-12T18:32:58.000Z

In [changeset:"33078a2bfb7b58fc44e791530bb176b031b8c5b4/rtems" 33078a2/rtems]:

```

1 testsuites/libtests/[a-l]*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-12T18:33:01.000Z

In [changeset:"52a67757ef58ec63bc2c9c78b876640fc9aa7d7d/rtems" 52a67757/rtems]:

```

1 testsuites/libtests/[m-z]*: Change license to BSD-2
2
3 Updates #3053.

```

Author: Trac Migrate 2022-04-12T18:33:03.000Z

In [changeset:"d1c10d6a1e6ed60c2904342b925e15761536ba8e/rtems"
d1c10d6/rtems]:

```
1 testsuites/libtests/*/*.dts: stackchk02.doc: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:05.000Z

In [changeset:"6d410fe86b49802683a249f2e6e978868f84cb13/rtems"
6d410fe8/rtems]:

```
1 testsuites/fstests/*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:08.000Z

In [changeset:"e8878d48154e8f87fdf7a631214529d775c8a33d/rtems"
e8878d4/rtems]:

```
1 fstests/fsdosfsname01/create_image.sh: Manually change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:10.000Z

In [changeset:"a3610bb9245796fc971827564a26c74ef28338da/rtems"
a3610bb/rtems]:

```
1 testsuites/psxtests/psx[01]*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:12.000Z

In [changeset:"ede291588a0ca35ae1b17de21a743fc60ccc1135/rtems"
ede29158/rtems]:

```
1 testsuites/psxtests/psx[a-f]*: Change license to BSD-2
2
3 Updates #3053.
```


Author: Trac Migrate 2022-04-12T18:33:15.000Z

In [changeset:"9e07bccac2ee694a29e9a1b81640b2785dd31a05/rtems" 9e07bcc/rtems]:

```
1 testsuites/psxtests/psx[g-m]*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:17.000Z

In [changeset:"5594854647bfe5d3c6d50c62c226abd05a58ca01/rtems" 5594854/rtems]:

```
1 testsuites/psxtests/psx[n-z]*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:19.000Z

In [changeset:"ecdac5988aefce2474f0adebabef16c24c1db23a/rtems" ecdac598/rtems]:

```
1 testsuites/psxtests/include: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:21.000Z

In [changeset:"94fa540cc2e5fb89231850bac9d49a7de38636ec/rtems" 94fa540/rtems]:

```
1 testsuites/psxtmtests: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:24.000Z

In [changeset:"ab9faf9a6fe8ae8d1978e5ad66bd73a2150a1c06/rtems" ab9faf9/rtems]:

```
1 testsuites/psxtests/psxhdrs/devctl/*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:26.000Z

In [changeset:"9e6b2a9c8310c5c2843e8f11aa8658a859f0b691/rtems" 9e6b2a9/rtems]:

```
1 testsuites/psxtests/psxhdrs/pthread/*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:28.000Z

In [changeset:"7f209b98413db2065bfcf77a1dc01b991dacb695/rtems" 7f209b98/rtems]:

```
1 testsuites/psxtests/psxhdrs/sched/*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:30.000Z

In [changeset:"7f78f064fbd1a49c3934fb2dd4a001defb3e9616/rtems" 7f78f06/rtems]:

```
1 testsuites/psxtests/psxhdrs/signal*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:33.000Z

In [changeset:"e1448e979088cf5c4dd239f3beae19cbcc1ee357/rtems" e1448e9/rtems]:

```
1 testsuites/psxtests/psxhdrs/sys/mman/*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:35.000Z

In [changeset:"15db02f6cc84dfc8436c1f3ae61382d6c1317cf8/rtems" 15db02f6/rtems]:

```
1 testsuites/psxtests/psxhdrs/sys/socket/*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:37.000Z

In [changeset:"88b6293a639ff213acc79940e803508380ddd58e/rtems" 88b6293a/rtems]:

```
1 testsuites/psxtests/psxhdrs/time/*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:40.000Z

In [changeset:"3f5d8c9c5656ce964847b36ff815fce75fb7f79d/rtems" 3f5d8c9c/rtems]:

```
1 testsuites/psxtests/psxhdrs/unistd/*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:42.000Z

In [changeset:"e71f09094f6628a2ad2aa82f242e46cae2badde6/rtems" e71f0909/rtems]:

```
1 testsuites/samples: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-04-12T18:33:46.000Z

In [changeset:"842a7dd8133dcc37fdf3b45ac2a2df5e2268dbf6/rtems" 842a7dd8/rtems]:

```
1 psxmttests/psxmtkey02/init.c: Manually change license to BSD-2
2
3 This has yet another typo in the license and was missed by the script.
4
5 Updates #3053.
```

Author: Trac Migrate 2022-05-08T05:35:58.000Z

I grant permission to the RTEMS Foundation to relicense my current and future contributions from the current license GPLv2 plus exception to the RTEMS license becoming the 2-Clause BSD License.

Author: Trac Migrate 2022-05-18T09:30:18.000Z

In [changeset:"be580201dde028a5981fe98ca9d313ade4ae22f0/rtems" be580201/rtems]:

```
1 bsp: Relicense <bsp/default-initial-extension.h>
2
3 Replace Doxygen documentation. Change license to BSD-2-Clause according
4 to file history.
5
6 Update #3053.
```

Author: Trac Migrate 2022-05-18T09:30:20.000Z

In [changeset:"6476cdc67c3353dba717e30f78f1a4cf4f9e3805/rtems" 6476cdc/rtems]:

```
1 bsp: Relicense <bsp/fatal.h>
2
3 Add Doxygen documentation. Change license to BSD-2-Clause according
4 to file history.
5
6 Update #3053.
```

Author: Trac Migrate 2022-05-18T09:30:23.000Z

In [changeset:"93800e09d7d88bbd5a6b878d8df9bcd1f6e2fa05/rtems" 93800e0/rtems]:

```
1 rtems: Relicense rtemsmaxprio.c
2
3 Change license to BSD-2-Clause according to file history.
4
5 Update #3053.
```

Author: Trac Migrate 2022-05-18T09:30:25.000Z

In [changeset:"89c498ccdae67ae817f8a141183b771948a817b9/rtems" 89c498c/rtems]:

```
1 score: Add SPDX License Identifier
2
3 Remove URL in copyright notice.
4
5 Update #3053.
```

Author: Trac Migrate 2022-06-14T15:25:58.000Z

In [changeset:"f98b7391192bbe0a5e26bc05f310d160d4903b44/rtems" f98b739/rtems]:

```
1 smptests/*/*.py: Change license to BSD-2
2
3 Manually adjusted location of SPDX annotation so #! remains first line.
4
5 Updates #3053.
```

Author: Trac Migrate 2022-06-14T15:26:00.000Z

In [changeset:"731607b3b3ae58761addaaf9386bcba7d471a989/rtems" 731607b3/rtems]:

```
1 samples/*/*.doc: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-06-14T15:26:02.000Z

In [changeset:"dcbba7c0e6d9fb61ad1b5934dbba35aaf3e78d06/rtems" dcbba7c/rtems]:

```
1 psxtmtests/*/*.doc: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-06-14T15:26:05.000Z

In [changeset:"031f8fbcdcae508e2183a9eab79099dba5e1e1f2/rtems" 031f8fbc/rtems]:

```
1 smptests/*/*.doc: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-06-14T15:26:07.000Z

In [changeset:"7c6ff958e924464948e61ea31fc00f7dfc94bd8e/rtems" 7c6ff95/rtems]:

```
1 mptests/*/*.doc: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-06-14T15:26:09.000Z

In [changeset:"59a79edb9530d663f4f8baabdce055428f44cf18/rtems" 59a79ed/rtems]:

```
1 sptests/*/*.doc: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-06-14T15:26:12.000Z

In [changeset:"3a22252782bd974dc53f2fee797ac7085d5688f7/rtems" 3a222527/rtems]:

```
1 samples/iostream/init.cc: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-06-14T15:26:14.000Z

In [changeset:"1f23640a9b5c1897b221ef6ace6a58dd3a11825a/rtems" 1f23640/rtems]:

```
1 sptests/spglobalcon01/init.cc: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-06-15T17:29:25.000Z

In [changeset:"d6ebf4067e9525f6dbe18a50e537c99bdf75bbff/rtems" d6ebf40/rtems]:

```
1 bsps/shared/*: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-08T13:36:05.000Z

In [changeset:"8ca4b5c8bb24eac79fc190b71ae57979b15e2106/rtems" 8ca4b5c/rtems]:

```
1 bsps/arm/shared: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-08T13:36:07.000Z

In [changeset:"9e0244e95f4b1d890501c6de5ad87bc3c0417902/rtems" 9e0244e/rtems]:

```
1 bsps/arm/altera-cyclone-v: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-08T13:36:09.000Z

In [changeset:"6fc04f4cfd42e6960f1f763a1697aea1813cbe8c/rtems" 6fc04f4c/rtems]:

```
1 bsps/arm/atsamv: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-08T13:36:12.000Z

In [changeset:"b1cc3dd07e231ac097f50f0a94396954ca4970df/rtems" b1cc3dd0/rtems]:

```
1 bsps/arm/beagle: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-08T13:36:14.000Z

In [changeset:"65054595658b8b483411141eaecef53ce2cb0722/rtems" 65054595/rtems]:

```
1 bsps/arm/csb337: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-08T13:36:16.000Z

In [changeset:"df50266c6abcd5f77bd69244d40105df541edfe6/rtems" df50266/rtems]:

```
1 bsps/arm/imx: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-08T13:36:19.000Z

In [changeset:"03cb6e819c90852ca857269fc2dce2d21bfa9a/rtems"03cb6e81/rtems]:

```
1 bsps/arm/include: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-08T13:36:21.000Z

In [changeset:"c519d4589b97062b9725bf80679d08963f84080c/rtems"c519d458/rtems]:

```
1 bsps/arm/lpc176x: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-08T13:36:23.000Z

In [changeset:"d42276615c273c53890037499242a78bf4ba4a45/rtems"d4227661/rtems]:

```
1 bsps/arm/imxrt: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-08T13:36:26.000Z

In [changeset:"445ddb31ef132dfe1f6af00e58b71a97510b9a9c/rtems"445ddb3/rtems]:

```
1 bsps/arm/lpc24xx: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-08T13:36:29.000Z

In [changeset:"f3237b3186bdf4f2f5f7b2ff749d947e5c147207/rtems"f3237b31/rtems]:

```
1 bsps/arm/lpc32xx: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-08T13:36:31.000Z

In [changeset:"f6e9e89729a9fde615d079f77f91cd4c371347b6/rtems" f6e9e89/rtems]:

```
1 bsp/arm/raspberrypi: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-08T13:36:33.000Z

In [changeset:"00e0fb916ed5ca54c3d7ecb0de63490e61caff84/rtems" 00e0fb9/rtems]:

```
1 bsp/arm/realview-pbx-a9: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-08T16:13:30.000Z

- Attachment [CG-BSD2-relicensing.pdf](#) added

Cobham Gaisler BSD-2 relicensing

Author: Trac Migrate 2022-07-08T16:17:28.000Z

Cobham Gaisler grant permission for the relicensing to BSD-2 according to the signed document attached to the thread: <https://devel.rtems.org/attachment/ticket/3053/CG-BSD2-relicensing.pdf>

Author: Trac Migrate 2022-07-11T22:07:34.000Z

In [changeset:"a52aa5b43feb8ebec1336025ffc59a7c8045b517/rtems" a52aa5b4/rtems]:

```
1 bsp/i386/pc386: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:07:36.000Z

In [changeset:"c1b1c0fa6c3231465a40dbaa5ca3be536974eccc/rtems" c1b1c0fa/rtems]:

```
1 bsp/i386/shared/pci/pci_io.c: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:07:38.000Z

In [changeset:"5e8ec6356104bb0f8b506fdf58bd86ad09174c16/rtems"5e8ec63/rtems]:

```
1 bsp/include: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:07:41.000Z

In [changeset:"2c48b89cb0c59aee7824c48809fceb647a0a3a66/rtems"2c48b89c/rtems]:

```
1 bsp/lm32/include: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:07:43.000Z

In [changeset:"1670bb2ddd971d5d905afc64830bd369c8020a5e/rtems"1670bb2d/rtems]:

```
1 bsp/lm32/lm32_evr: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:07:46.000Z

In [changeset:"2b87d7c5d8a444ffebc0065f632345e1e7c0d5d4/rtems"2b87d7c5/rtems]:

```
1 bsp/lm32/shared: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:07:48.000Z

In [changeset:"cb4fdffe1643980f52577ffbf13a1560b689c72/rtems"cb4fdff/rtems]:

```
1 m68k/bsp/av5282: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:07:50.000Z

In [changeset:"bdd4f6dcbc9fc75930863c3154afa7191e3cb860/rtems"
bdd4f6dc/rtems]:

```
1 bsp/m68k/csv360: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:07:53.000Z

In [changeset:"f888837dd6826b8a40a6af04e682be67e564696e/rtems"
f888837/rtems]:

```
1 bsp/m68k/gen68340: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:07:55.000Z

In [changeset:"cfadecbfc957aa7cfd7626628abfd6cdba2955/rtems"
cfadecb/rtems]:

```
1 bsp/m68k/gen68360: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:07:57.000Z

In [changeset:"810bdeb34a3bff58a19bcc90d23afcd420f3512b/rtems"
810bdeb/rtems]:

```
1 bsp/m68k/genmcf548x: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:08:00.000Z

In [changeset:"62f31d05e5026d580d6f1fe85470d3e47620a911/rtems"
62f31d05/rtems]:

```
1 bsp/m68k/include: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:08:02.000Z

In [changeset:"5382615860fb8c5ada1dcbeb55982305328e1eed/rtems"53826158/rtems]:

```
1 bsp/m68k/mcf5206elite: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:08:05.000Z

In [changeset:"8cc14e5a5e9db41ba800d81ce184b6cf5c872f3e/rtems"8cc14e5/rtems]:

```
1 bsp/m68k/mcf52235: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:08:07.000Z

In [changeset:"eb7b866f51f7b49be09ffe9583db420cc1edcdd2/rtems"eb7b866/rtems]:

```
1 bsp/m68k/mcf5225x: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:08:09.000Z

In [changeset:"e50bdda22ca95126e2042f6950c1c79d499d0e07/rtems"e50bdda2/rtems]:

```
1 bsp/m68k/mvf5235: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:08:12.000Z

In [changeset:"c46ec2b497e2d2bf754eb46bd5d319f47317aa36/rtems"c46ec2b/rtems]:

```
1 bsp/m68k/mcf5329: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:08:14.000Z

In [changeset:"35cfe737408ccfdc82453aa88bb0c913ab237463/rtems"
35cfe73/rtems]:

```
1 bsp/m68k/mrm332: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:08:17.000Z

In [changeset:"b4c3de78ea5058815f2f6d0f5d98c68b3063d4b3/rtems"
b4c3de7/rtems]:

```
1 bsp/m68k/mvme147: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:08:19.000Z

In [changeset:"c669338a7e806e9a6c8ce527230279bdfcea4d68/rtems"
c669338a/rtems]:

```
1 bsp/m68k/mvme147s: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:08:21.000Z

In [changeset:"c1137c7f04c715e03d940a01dc80d553301fff5b/rtems"
c1137c7/rtems]:

```
1 bsp/m68k/mvme162: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:08:23.000Z

In [changeset:"a9a99164719454aefd8b3c3bc7066c4d4f8186c1/rtems"
a9a99164/rtems]:

```
1 bsp/m68k/shared: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-11T22:08:26.000Z

In [changeset:"1be68d80932c28c697a703f3382c949d6f0338de/rtems"
1be68d8/rtems]:

```
1 bsp/m68k/uc5282: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:05.000Z

In [changeset:"96a4b8c4942ccab1ecec8be911c7d899d84e8bdc/rtems"
96a4b8c/rtems]:

```
1 bsp/mips/shared: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:08.000Z

In [changeset:"5806ba0f5646088249048f8db67b1d0402d6e1d4/rtems"
5806ba0/rtems]:

```
1 bsp/mips/csb350: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:10.000Z

In [changeset:"334d90e324f916156e83fd19c5b1c3e0b364f1bd/rtems"
334d90e3/rtems]:

```
1 bsp/mips/hurricane: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:13.000Z

In [changeset:"654ff835bbbed4b2716cdbde224136d40aec98e74/rtems"
654ff835/rtems]:

```
1 bsp/mips/include: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:15.000Z

In [changeset:"d1dcf24924706775473684ac483f7f45535cd950/rtems"
d1dcf24/rtems]:

```
1 bsps/mips/jmr3904: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:17.000Z

In [changeset:"36be074d3640ba0f7d8637ceebc3d4b8e1cc1dc9/rtems"
36be074/rtems]:

```
1 bsps/mips/malta: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:19.000Z

In [changeset:"01c5b57d3905e191000fa9819a2bb37b6f769a6e/rtems"
01c5b57d/rtems]:

```
1 bsps/mips/rbtx4925: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:22.000Z

In [changeset:"fdda5dfe417f82cec7c9c4b6d1ea028b778d4e6d/rtems"
fdda5dfe/rtems]:

```
1 bsps/mips/rbtx4938: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:24.000Z

In [changeset:"78a63729fad355d8d3e7c95277f3370316aec15/rtems"
78a6372/rtems]:

```
1 bsps/moxie/moxiesim: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:27.000Z

In [changeset:"5ee313155dc47c49269c9b826d330e550b6fe3ad/rtems"
5ee3131/rtems]:

```
1 bsp/bsp/nios2/nios2_iss: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:29.000Z

In [changeset:"a3571e39fa9817822534e5c84ed90716bf07cdaa/rtems"
a3571e39/rtems]:

```
1 bsp/bsp/no_cpu/no_bsp: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:31.000Z

In [changeset:"d9d2cdf213b244b315b79d953edfe690f8d1ff3/rtems"
d9d2cdf/rtems]:

```
1 bsp/bsp/powerpc/beatnik: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:34.000Z

In [changeset:"a965590d648b77433de0978d1d88b80538e1e7c4/rtems"
a965590d/rtems]:

```
1 bsp/bsp/powerpc/gen5200: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:36.000Z

In [changeset:"fe8b4b6c79ce47d2dc7703286dbb2689ec986c0e/rtems"
fe8b4b6c/rtems]:

```
1 bsp/bsp/powerpc/83xx: Change license to BSD-2
2
3 Updates #3053.
```


Author: Trac Migrate 2022-07-12T16:40:38.000Z

In [changeset:"5ba0bb2afd25a2812a5abccc9df8ccd3aeb1f462/rtems" 5ba0bb2a/rtems]:

```
1 bsp/bsp/powerpc/include: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:41.000Z

In [changeset:"bc374cd7a5803adc1ca481dce4312b785f4c49fe/rtems" bc374cd/rtems]:

```
1 bsp/bsp/powerpc/mpc55xxevb: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:43.000Z

In [changeset:"88cf40e63c4c4cad72a27d072563a87f2ff60147/rtems" 88cf40e6/rtems]:

```
1 bsp/bsp/powerpc/mpc8260ads: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:45.000Z

In [changeset:"5aea703542a25e117776b6bf8ba36528a02b7c85/rtems" 5aea7035/rtems]:

```
1 bsp/bsp/powerpc/psim: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:47.000Z

In [changeset:"a29b9bb4dd41d0926ea294f1435d4900438bd4ad/rtems" a29b9bb4/rtems]:

```
1 bsp/bsp/powerpc/qemuppc: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:50.000Z

In [changeset:"8f4878ae1f3c47b98ade2c6b87f0f78378c7efeb/rtems"
8f4878ae/rtems]:

```
1 bsp/powerpc/qoriq: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:52.000Z

In [changeset:"9375d24dc8302f9f9458232419325426ee2fec04/rtems"
9375d24/rtems]:

```
1 bsp/powerpc/shared: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:55.000Z

In [changeset:"a1fb8b7edb86dab354a4e78917039ea924fba68d/rtems"
a1fb8b7/rtems]:

```
1 bsp/powerpc/t32mppc: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:57.000Z

In [changeset:"22d861ab9a8799dc861682fb8f37555ab8a36d8c/rtems"
22d861a/rtems]:

```
1 bsp/powerpc/tqm8xx: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:40:59.000Z

In [changeset:"77f1ae05dd2f8785feac5d653a2a7353c61e9bf0/rtems"
77f1ae0/rtems]:

```
1 bsp/powerpc/virtex: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:41:02.000Z

In [changeset:"8a41efe42427c0bdb33c33dad88c8a6446eeaf0/rtems"
8a41efe4/rtems]:

```
1 bsps/powerpc/virtex4: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:41:04.000Z

In [changeset:"a73615a948081a331aee0c89633a6cb8856fae5d/rtems"
a73615a9/rtems]:

```
1 bsps/powerpc/virtex5: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:41:06.000Z

In [changeset:"0fc7a4499cce46a090d89d97f526e03cdb42d1fa/rtems"
0fc7a44/rtems]:

```
1 bsps/sh/gensh1: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:41:09.000Z

In [changeset:"aacf9e23fbd11d776a3e3a685d1642b98363dedd/rtems"
aacf9e2/rtems]:

```
1 bsps/sh/gensh2: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:41:11.000Z

In [changeset:"00913bb163bff6789ba5016091c71985116822c0/rtems"
00913bb1/rtems]:

```
1 bsps/sh/shared: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:41:13.000Z

In [changeset:"f436fc7a18396fbc033ef5dabb63741aa3d0280e/rtems"
f436fc7/rtems]:

```
1 bspsh/shsim: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:41:16.000Z

In [changeset:"749e9b63bd9b4667503a6186b93f639cbfae7749/rtems"
749e9b63/rtems]:

```
1 bspsh/sparc64/include: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:41:18.000Z

In [changeset:"a49acb6bef31fcbfe8da7901949fcc16900ec64a/rtems"
a49acb6b/rtems]:

```
1 bspsh/sparc64/niagara: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:41:20.000Z

In [changeset:"ae71cf38ebf4dfdf1ff4b61035a3618bea881ef9/rtems"
ae71cf38/rtems]:

```
1 bspsh/sparc64/shared: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:41:23.000Z

In [changeset:"c1008e9da1b0da9b862d3915fe566e75fbb3fc52/rtems"
c1008e9d/rtems]:

```
1 bspsh/sparc64/usiii: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-07-12T16:41:25.000Z

In [changeset:"405639a67d846960bb15c04ee898554228988758/rtems" 405639a6/rtems]:

```
1 bsp/v850/gdbv850sim: Change license to BSD-2
2
3 Updates #3053.
```

Author: Trac Migrate 2022-11-15T16:54:31.000Z

In [changeset:"33f6e34b2d5cefff41e7dbdb98dd1d4ad40e5c74/rtems" 33f6e34/rtems]:

```
1 bsp/include/grlib: Change license to BSD-2 for files with Gaisler
  ↳ copyright
2
3 This patch changes the license to BSD-2 for all source files where the
4 copyright is held by Aeroflex Gaisler, Cobham Gaisler, or Gaisler
  ↳ Research.
5 Some files also includes copyright right statements from OAR and/or
6 embedded Brains in addition to Gaisler.
7
8 Updates #3053.
```

Author: Trac Migrate 2022-11-15T16:54:33.000Z

In [changeset:"5d5b9eeb0845a9824fab55c8881ba15b43559d77/rtems" 5d5b9ee/rtems]:

```
1 bsp/shared/grlib: Change license to BSD-2 for files with Gaisler
  ↳ copyright
2
3 This patch changes the license to BSD-2 for all source files where the
4 copyright is held by Aeroflex Gaisler, Cobham Gaisler, or Gaisler
  ↳ Research.
5 Some files also includes copyright right statements from OAR and/or
6 embedded Brains in addition to Gaisler.
7
8 Updates #3053.
```

Author: Trac Migrate 2022-11-15T16:54:35.000Z

In [changeset:"e01e499490fa651074f8c48114fa5b7f4eb6ff93/rtems" e01e499/rtems]:

```

1 bsp/sparc: Change license to BSD-2 for files with Gaisler copyright
2
3 This patch changes the license to BSD-2 for all source files where the
4 copyright is held by Aeroflex Gaisler, Cobham Gaisler, or Gaisler
  ↳ Research.
5 Some files also includes copyright right statements from OAR and/or
6 embedded Brains in addition to Gaisler.
7
8 Updates #3053.

```

Author: Trac Migrate 2022-11-15T16:54:38.000Z

In [changeset:"18a181c267f0249d7310809c45559fb347cdf577/rtems" 18a181c2/rtems]:

```

1 bsp/riscv: Change license to BSD-2 for files with Gaisler copyright
2
3 This patch changes the license to BSD-2 for all source files where the
4 copyright is held by Aeroflex Gaisler, Cobham Gaisler, or Gaisler
  ↳ Research.
5 Some files also includes copyright right statements from OAR and/or
6 embedded Brains in addition to Gaisler.
7
8 Updates #3053.

```

Author: Trac Migrate 2022-11-15T16:54:40.000Z

In [changeset:"9384ac2d65da4cab43369d0c4fd626ae67e1d833/rtems" 9384ac2/rtems]:

```

1 cpukit: Change license to BSD-2 for files with Gaisler copyright
2
3 This patch changes the license to BSD-2 for all source files where the
4 copyright is held by Aeroflex Gaisler, Cobham Gaisler, or Gaisler
  ↳ Research.
5 Some files also includes copyright right statements from OAR and/or
6 embedded Brains in addition to Gaisler.
7
8 Updates #3053.

```

Author: Trac Migrate 2022-11-15T16:54:42.000Z

In [changeset:"3f644aa874e3a67191c9755f6251f8b6b0fa037d/rtems" 3f644aa/rtems]:

```

1 testsuites/smp tests: Change license to BSD-2 for files with Gaisler
  ↳ copyright

```

(continues on next page)

(continued from previous page)

```

2
3 This patch changes the license to BSD-2 for all source files where the
4 copyright is held by Aeroflex Gaisler, Cobham Gaisler, or Gaisler
  ↳ Research.
5
6 Updates #3053.

```

Author: Trac Migrate 2023-12-12T21:42:48.000Z

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Přemysl Houdek

Author: Trac Migrate 2024-01-15T09:36:58.000Z

In [\[changeset:"8e8b9bc0b727c9d35b3ac1ef27f90b2f81aefb4c/rtems"8e8b9bc0/rtems\]](#):

```

1 bsp/tms570: Relicense to BSD-2-Clause
2
3 Change license to BSD-2-Clause according to file history and contributor
4 agreements. Add Doxygen file comments.
5
6 Update #3053.
7 Update #3707.
8 Update #4982.

```

Author: Chris Johns 2024-05-23T23:46:44.916Z

Attach a PDF print of the Trac ticket to record the names. These were lost in the move to Gitlab.

Author: Joel Sherrill 2024-05-28T20:47:42.267Z

mentioned in merge request [!52](#)

Author: Joel Sherrill 2024-06-07T14:57:06.117Z

Tony Bennett has given permission. Attached is a PDF of his email.

[Tony-Bennett-Permission.pdf](#)

Author: Joel Sherrill 2025-01-22T23:26:42.210Z

mentioned in issue [rtems-examples#7](#)

Author: Gedare Bloom 2025-01-28T00:48:47.491Z

mentioned in issue [rtems/websites/www.rtems.org#4](#)

Author: Gedare Bloom 2025-02-01T06:19:37.084Z

mentioned in merge request [!376](#)

Author: Gedare Bloom 2025-02-02T01:28:43.571Z

mentioned in merge request [!380](#)

Author: Gedare Bloom 2025-02-03T22:57:30.665Z

mentioned in merge request [!382](#)

Author: Gedare Bloom 2025-02-03T23:29:10.329Z

mentioned in merge request [!383](#)

Author: Gedare Bloom 2025-02-04T00:03:43.057Z

mentioned in merge request [!385](#)

Author: Gedare Bloom 2025-02-04T00:16:16.931Z

mentioned in merge request [!386](#)

Author: Eric Valette 2025-02-04T08:57:29.388Z

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I, however, kindly request to keep an email for attribution and change existing one to a correct email address like the one used in my gitlab account profile.

Author: Andrew Dachs 2025-02-09T20:21:35.600Z

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Author: Gedare Bloom 2025-02-09T23:39:56.419Z

mentioned in merge request [!408](#)

Author: Joel Sherrill 2025-02-12T02:34:42.805Z

mentioned in issue [rtems/websites/www.rtems.org#8](#)

Author: Joel Sherrill 2025-02-28T18:31:09.167Z

mentioned in merge request [!437](#)

Author: Joel Sherrill 2025-03-11T22:50:01.226Z

mentioned in merge request [!448](#)

Author: Joel Sherrill 2025-03-12T22:25:06.768Z

mentioned in merge request [!449](#)

Author: Joel Sherrill 2025-03-12T22:32:55.861Z

mentioned in merge request [!450](#)

Author: Joel Sherrill 2025-03-13T18:46:00.581Z

mentioned in merge request [!451](#)

Author: Joel Sherrill 2025-03-18T19:47:56.868Z

mentioned in merge request [!455](#)

Author: Joel Sherrill 2025-03-18T20:20:08.453Z

mentioned in merge request [!456](#)

Author: Chirayu Desai 2025-08-21T23:01:02.285Z

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Author: Joel Sherrill 2025-08-22T14:18:06.244Z

mentioned in merge request [!685](#)

Author: Gedare Bloom 2025-08-22T16:06:13.259Z

mentioned in merge request [!686](#)

Author: Joel Sherrill 2025-09-03T22:37:31.847Z

mentioned in merge request [!702](#)

Author: Amar Takhar 2025-09-05T02:53:07.769Z

changed the description

Author: Amar Takhar 2025-09-05T02:55:29.595Z

mentioned in issue [#3899](#)

Author: Joel Sherrill 2025-09-08T14:48:45.884Z

Ray Xu <rayx.cn@gmail.com> gave permission via email to @joel and @gedare.
PDF of permission attached.

[RayXu-PermissiontoRelicenseRTEMSSubmissions.pdf](#)

Author: Joel Sherrill 2025-09-08T17:01:11.448Z

mentioned in merge request [!710](#)

Author: John Gwynne 2025-09-08T21:16:17.388Z

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John Gwynne

Author: Joel Sherrill 2025-09-08T21:50:19.748Z

mentioned in merge request [!713](#)

Author: Joel Sherrill 2025-09-10T18:31:22.448Z

Claas Ziemke <claas.ziemke@gmx.net> gave permission via email to @joel and @gedare. PDF of permission attached.

[ClaasZiemke-PermissiontoRelicenseRTEMSSubmissions.pdf](#)

Author: Joel Sherrill 2025-09-10T18:47:09.138Z

Ric Claus' permission grant did not show up when I searched earlier. Adding the email he forwarded which clearly indicates he gave permission in 2022 before the conversion to GitLab.

[Re__RTEMS_Project__3053__Change_RTEMS_License_to_Two_Paragraph_BSD.eml](#)

Author: Amar Takhar 2025-09-10T18:47:09.088Z

Look here for the PDF it's in there: https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3053#note_106221

Author: Amar Takhar 2025-09-10T18:48:33.441Z

This PDF is a snapshot of the original trac page so use that if something doesn't show up here. It appears to be this comment: https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3053#note_93669

Author: Joel Sherrill 2025-09-10T18:50:57.469Z

Thanks. Important to check both. This has been going on a LONG time. :(

Author: Joel Sherrill 2025-09-11T15:06:32.506Z

mentioned in merge request [!717](#)

Author: Joel Sherrill 2025-09-11T23:15:43.443Z

mentioned in merge request [!718](#)

Author: Joel Sherrill 2025-09-12T14:07:10.244Z

mentioned in merge request [!723](#)

Author: Joel Sherrill 2025-09-12T14:49:09.574Z

mentioned in merge request [!724](#)

Author: Joel Sherrill 2025-09-15T16:21:47.649Z

mentioned in commit 600b76286e96369d8d34bd4d091d64d322b27c76

Author: Joel Sherrill 2025-09-17T23:27:21.101Z

Wei Shen <cquark@gmail.com> has given permission to relicense their submissions.

[WeiShen-PermissiontoRelicenseRTEMSSubmissions.pdf](#)

They also would like to have their email changed in comments to <jshen.yn@gmail.com> which is associated with their github account ``jianjuns`` <<https://github.com/jianjuns>>`_(Jianjun Shen).

Author: Joel Sherrill 2025-09-18T14:28:20.464Z

mentioned in merge request [!729](#)

Author: Chris Johns 2025-09-19T01:03:48.699Z

mentioned in issue [#4625](#)

Author: Alan Cudmore 2025-09-25T13:02:31.499Z

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Alan Cudmore

Author: Joel Sherrill 2025-09-27T14:56:24.275Z

mentioned in merge request [!756](#)

Author: Joel Sherrill 2025-10-06T21:57:44.797Z

mentioned in merge request [!768](#)

Author: Kinsey Moore 2025-10-08T16:39:29.848Z

mentioned in commit e91ace80f111b0a0284941deecb133d424e74c5

Author: Joel Sherrill 2025-10-10T20:35:37.409Z

Permission receive from Matthew Riek. PDF attached.

[MatthewRiek-PermissiontoRelicenseRTEMSSubmissions.pdf](#)

Author: Joel Sherrill 2026-01-14T20:31:37.200Z

mentioned in merge request [!909](#)

Author: Joel Sherrill 2026-01-16T21:51:31.365Z

mentioned in merge request [!919](#)

Author: Joel Sherrill 2026-02-02T20:42:43.756Z

mentioned in merge request [!984](#)

Author: Gedare Bloom 2026-02-04T18:01:56.982Z

mentioned in merge request [!1015](#)

1.5.1.9 3034 - Convert all serial device drivers to use the new Termios device API (opened)

Id	3034
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-06-08T08:30:17.000Z
Updated	2025-09-19T01:46:13.767Z
Milestone	5.4
Labels	bsp, old-indefinite, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3034
Merges	0

Original author: sebastian.huber

The new Termios device API is documented here:

<https://docs.rtems.org/branches/master/bsp-howto/console.html>

Legacy drivers can be found via the `rtems_termios_open()` function.

Author: Trac Migrate 2018-09-12T09:45:49.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*

Author: Trac Migrate 2020-01-07T17:24:34.000Z

Original author: sebastian.huber

In [changeset:"362cf319d44e7e64987f12aa36ea030e6298c586/rtems"362cf319/rtems]:

```
1 bsp/raspberrypi: Updated the console API.
2
3 Replaces the legacy termios API with new termios API (#3034)
4 Replaces the custom PL011 serial driver with RTEMS arm-pl011.
5 Update #3034
```

Author: Amar Takhar 2025-09-05T03:01:05.555Z

changed the description

1.5.1.10 3026 - Driver Manager Documentation (opened)

Id	3026
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2017-05-29T06:34:02.000Z
Updated	2025-09-19T01:46:13.583Z
Milestone	5.4
Labels	doc, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3026
Merges	0

<https://devel.rtems.org/wiki/TBR/UserManual/DriverManager> should be updated, possibly expanded and added to the user's manual.

Please delete the Wiki page after merging into the user's manual.

Author: Joel Sherrill 2017-05-29T06:34:46.000Z

- **Owner** set to daniel
- **Status** changed from *new* to *assigned*

Author: Joel Sherrill 2017-05-29T06:35:41.000Z

- **Description** changed

```

1 https://devel.rtems.org/wiki/TBR/UserManual/DriverManager should be
  ↪ updated, possibly expanded and added to the user's manual.
2 +
3 + Please delete the Wiki page after merging into the user's manual.

```

Author: Chris Johns 2025-09-19T01:46:13.652Z

changed the description

1.5.1.11 2979 - Load rap files failure with zeroed sections (opened)

Id	2979
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-04-05T08:34:26.000Z
Updated	2025-09-19T01:46:13.487Z
Milestone	5.4
Labels	cpukit::dl, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2979
Merges	0

Original author: SergKruglov

After patch “libdl: Add C++ exception support to loaded modules.” (ticket 2767 Chris Johns <chrisj@rtems.org> 2016-12-13 22:07:16 (UTC)) in function `rtems_rtl_obj_add_section` sections with size == 0 not added to sections list for relocate. In function `rtems_rtl_rap_relocate` for this sections generate error “no target section found”. The introduction of the condition “size > 0” in `rtems_rtl_obj_add_section` was a mistake. I use rap files and plain C (.ctor and .dctor have size == 0).

Author: Trac Migrate 2017-04-05T08:44:28.000Z

Original author: SergKruglov

- **Owner** set to chrisj@rtems.org

Author: Trac Migrate 2017-05-11T07:31:02.000Z

Original author: SergKruglov

- **Milestone** changed from %”4.12” to %”4.12.0”

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: SergKruglov

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Chris Johns 2018-10-14T20:28:22.000Z

Original author: SergKruglov

- **Owner** set to @chrisj
- **Status** changed from *new* to *accepted*

Author: Chris Johns 2018-11-13T06:08:34.000Z

Original author: SergKruglov

The size > 0 in `rtems_rtl_obj_add_section` is correct and will not be reverted. An empty section serves no purpose other than using memory.

If the code is built with separate text and data section then this is a separate issue.

Author: Chris Johns 2019-12-12T23:31:32.000Z

Original author: SergKruglov

- **Milestone** changed from %"5.1" to %"6.1"

Author: Chris Johns 2022-11-29T21:33:55.000Z

Original author: SergKruglov

- **Milestone** changed from %"6.1" to %"Indefinite"
- **Owner** set to Needs Funding
- **Status** changed from *accepted* to *assigned*
- **Version** ~"5" deleted

Author: Amar Takhar 2025-09-05T02:57:38.534Z

changed the description

1.5.1.12 2978 - Support for sigaction() sa_flags Values (opened)

Id	2978
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2017-04-04T20:22:13.000Z
Updated	2025-09-19T01:46:13.396Z
Milestone	5.4
Labels	old-indefinite, posix::compliance, priority::normal, rtems::score, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2978
Merges	0

Per <http://pubs.opengroup.org/onlinepubs/009695399/functions/sigaction.html>, the sa_flags field can have the following values which imply behavior in the POSIX implementation:

- SA_NOCLDSTOP - requires processes, unportable
- SA_ONSTACK - requires unsupported sigaltstack, currently unportable
- SA_RESTART - should be supportable
- SA_SIGINFO - should be supportable
- SA_NOCLDWAIT - requires processes, unportable
- SA_NODEFER - should be supportable

The purpose of this ticket is to review that the supportable sa_flags behaviors are supported or to implement the missing capabilities.

Author: Amar Takhar 2024-04-25T20:45:39.893Z

changed the description

1.5.1.13 2974 - Enable search.h functionality in newlib (opened)

Id	2974
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2017-04-04T15:42:16.000Z
Updated	2025-09-19T01:46:13.306Z
Milestone	5.4
Labels	old-indefinite, posix::compliance, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2974
Merges	0

Ensure all search capabilities in newlib are enabled (newlib/libc/search) and review the search.h capabilities against POSIX for completeness and compliance.

<http://pubs.opengroup.org/onlinepubs/9699919799/basedefs/search.h.html>

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-06-08T07:50:49.000Z

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Amar Takhar 2024-04-25T20:45:38.643Z

changed the description

1.5.1.14 2973 - Enable getdate() in newlib (opened)

Id	2973
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2017-04-04T15:34:55.000Z
Updated	2025-09-19T01:46:13.206Z
Milestone	5.4
Labels	old-indefinite, posix::compliance, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2973
Merges	0

getdate() (<http://pubs.opengroup.org/onlinepubs/009695399/functions/getdate.html>) needs to be turned on in newlib

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-06-08T07:51:23.000Z

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Amar Takhar 2024-04-25T20:45:38.146Z

changed the description

1.5.1.15 2926 - Coverity Reports Multiple Out of Bounds Accesses in rtd-mdreloc-sparc.c (opened)

Id	2926
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2017-03-13T16:21:39.000Z
Updated	2025-09-19T01:46:13.111Z
Milestone	5.4
Labels	priority::normal, scan::coverity, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2926
Merges	0

Coverity spots an out of bounds read in rtl-mdreloc-sparc.c. Given the comment at the top that it was “Taken from NetBSD and stripped of the relocations not needed on RTEMS”, I am unsure how to correlate the code back to the original to see if the issue exists upstream. Also I do not know where in the NetBSD source this came from.

The first issue is: <https://scan5.coverity.com/reports.htm#v29808/p10069/fileInstanceId=109360252&defectInstanceId=30967451&mergedDefectId=1255330>

The long analysis ends with:

226

CID 1255330 (#1 of 1): Out-of-bounds read (OVERRUN) 14. overrun-local: Overrunning array reloc_target_bitmask of 24 4-byte elements at element index 45 (byte offset 180) using index type (which evaluates to 45). 227 mask = RELOC_VALUE_BITMASK (type); 228 value >>= RELOC_VALUE_RIGHTSHIFT (type); 229 value &= mask;

The others are:

<https://scan5.coverity.com/reports.htm#v29808/p10069/fileInstanceId=109360252&defectInstanceId=30967452&mergedDefectId=1255332> <https://scan5.coverity.com/reports.htm#v29808/p10069/fileInstanceId=109360252&defectInstanceId=30967450&mergedDefectId=1255342>

Author: Joel Sherrill 2017-03-14T21:28:40.000Z

- **Description** changed

```

1 Coverity spots an out of bounds read in rtl-mdreloc-sparc.c. Given the_
  ↳ comment at the top that it was "Taken from NetBSD and stripped of the_
  ↳ relocations not needed on RTEMS", I am unsure how to correlate the_
  ↳ code back to the original to see if the issue exists upstream. Also I_
  ↳ do not know where in the NetBSD source this came from.
2
3 - https://scan5.coverity.com/reports.htm#v29808/p10069/
  ↳ fileInstanceId=109360252&defectInstanceId=30967451&
  ↳ mergedDefectId=1255330

```

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```

4 + The first issue is: https://scan5.coverity.com/reports.htm#v29808/
   ↳ p10069/fileInstanceId=109360252&defectInstanceId=30967451&
   ↳ mergedDefectId=1255330
5 ? ++++++
6
7
8 The long analysis ends with:
9
10 226
11
12 CID 1255330 (#1 of 1): Out-of-bounds read (OVERRUN)
13 14. overrun-local: Overrunning array reloc_target_bitmask of 24 4-byte_
   ↳ elements at element index 45 (byte offset 180) using index type_
   ↳ (which evaluates to 45).
14 227 mask = RELOC_VALUE_BITMASK (type);
15 228 value >>= RELOC_VALUE_RIGHTSHIFT (type);
16 229 value &= mask;
17 +
18 + The others are:
19 +
20 + https://scan5.coverity.com/reports.htm#v29808/p10069/
   ↳ fileInstanceId=109360252&defectInstanceId=30967452&
   ↳ mergedDefectId=1255332
21 + https://scan5.coverity.com/reports.htm#v29808/p10069/
   ↳ fileInstanceId=109360252&defectInstanceId=30967450&
   ↳ mergedDefectId=1255342

```

- **Summary** changed from *Out of Bounds Access in rtd-mdreloc-sparc.c* to *Coverity Reports Multiple Out of Bounds Accesses in rtd-mdreloc-sparc.c*

Author: Chris Johns 2017-03-14T23:15:59.000Z

Replying to [Joel Sherrill](#):

Coverity spots an out of bounds read in `rtl-mdreloc-sparc.c`. Given the comment at the top that it was “Taken from NetBSD and stripped of the relocations not needed on RTEMS”, I am unsure how to correlate the code back to the original to see if the issue exists upstream. Also I do not know where in the NetBSD source this came from.

The code was taken into RTEMS and working with the upstream is only as a reference. The code in NetBSD is under:

http://cvsweb.netbsd.org/bsdweb.cgi/src/libexec/ld.elf_so/?only_with_tag=MAIN

and the SPARC code is:

http://cvsweb.netbsd.org/bsdweb.cgi/src/libexec/ld.elf_so/arch/sparc/?only_with_tag=MAIN

The first issue is: <https://scan5.coverity.com/reports.htm#>

[v29808/p10069/fileInstanceId=109360252&defectInstanceId=30967451&mergedDefectId=1255330](https://scan5.coverity.com/reports.htm#v29808/p10069/fileInstanceId=109360252&defectInstanceId=30967451&mergedDefectId=1255330)

This link is redirects me to a login page and my login for Coverity did not work. I had no idea it did not work and I never received anything from them it was being disabled.

Should we have links to login pages in open tickets like this?

The long analysis ends with: 226 CID 1255330 (#1 of 1): Out-of-bounds read (OVERRUN) 14. overrun-local: Overrunning array reloc_target_bitmask of 24 4-byte elements at element index 45 (byte offset 180) using index type (which evaluates to 45).

Where does the 45 come from?

```
227 mask = RELOC_VALUE_BITMASK (type); 228
value >>= RELOC_VALUE_RIGHTSHIFT (type);
229 value &= mask; The others are: https://scan5.coverity.com/reports.htm#v29808/p10069/fileInstanceId=109360252&defectInstanceId=30967452&mergedDefectId=1255332
https://scan5.coverity.com/reports.htm#v29808/p10069/fileInstanceId=109360252&defectInstanceId=30967450&mergedDefectId=1255342
```

Sorry I cannot see these.

Author: Gedare Bloom 2017-03-15T14:56:54.000Z

These links don't work for me even if I am logged in, so they are of minimal utility. I had to use the CID number to pull up the report.

Joel did not paste enough of Coverity's history to understand the context. You have to go back a step to see:

6. cond_between: Checking type > 45UL implies that type is between 1 and 45 (inclusive) on the false branch. 176 if (type > R_TYPE(6))

Author: Joel Sherrill 2017-03-15T17:08:19.000Z

We will have to figure out how to make the links useful.

My hunch is that since the code is modified from the original that some logic from the original is missing which leads to the three issues spotted.

Author: Chris Johns 2017-03-15T21:48:00.000Z

Thank you for looking into the coverity links, having public view-able report data would be nice.

I will add the ticket to my list of things to look into.

The upstream code can contain functionality not needed on RTEMS and this effects the ability to handle the source as is. I used the NetBSD code as a base of what we need because it had suitable code and NetBSD has a wide range of architectures. Add to this newer tool sets have presented us with newer reloc types and some differences. For example this file was recently updated to handle the unwinding support and here RTEMS and NetBSD build gcc differently which effects the type of relocation records we see. I felt it was not worth the effort attempting to keep the code in sync with the upstream.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Joel Sherrill 2018-10-14T01:04:03.000Z

- **Milestone** %"5.1" deleted
- **Version** ~"5" deleted

Author: Amar Takhar 2024-04-25T20:45:28.593Z

changed the description

1.5.1.16 2892 - Use of C domain in shpinx documentation? (opened)

Id	2892
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-02-01T10:24:33.000Z
Updated	2025-09-19T01:46:13.010Z
Milestone	5.4
Labels	doc, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2892
Merges	0

Original author: sebastian.huber

The sphinx documentation framework provides so called C/C++ domains for C/C++ API documentation:

<http://www.sphinx-doc.org/en/stable/domains.html#c-roles>

This feature is not used in the RTEMS documentation. Should it be used? Do we need a custom domain for the API documentation?

The PDF output of the C/C++ domain constructs is quite bad.

Author: Joel Sherrill 2017-02-01T14:26:46.000Z

Original author: sebastian.huber

I recall Chris and I tried to get this working but failed. Perhaps more is correct now and it will work. Give it a try. Using Sphinx is a learning experience for us all.

Author: Trac Migrate 2017-02-01T14:28:14.000Z

Original author: sebastian.huber

I used the C domain for the self-contained objects chapter. The HTML output looks ok, but the PDF output is not really good. I will ask on the sphinx group.

Author: Chris Johns 2017-02-01T23:48:26.000Z

Original author: sebastian.huber

I also found this and backed away from this path as I did have the time to invest becoming a sphinx master.

Author: Trac Migrate 2017-02-15T14:20:42.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”Indefinite”
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:01:04.580Z

changed the description

1.5.1.17 2887 - gcc snapshot sources missing for older RTEMS Source Builder versions (opened)

Id	2887
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-01-26T09:50:10.000Z
Updated	2025-09-19T01:46:12.900Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::enhancement, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2887
Merges	0

Original author: Christian Mauderer

I tried to build a toolchain using an older version of the RTEMS Source Builder (to be exact: [cac72a2aea7](#) from 2016-08-01). This failed due to the fact that the gcc snapshot that should be build isn't longer available:

<ftp://gcc.gnu.org/pub/gcc/snapshots/6-20160609/gcc-6-20160609.tar.bz2>

It seems that there are about 6 months of snapshots available but older ones have been deleted. That can be really annoying if you try to rebuild the tools for a specific RTEMS version.

It might would be a good idea if we would copy all sources that are used in RSB to an RTEMS ftp server and download them from there. This is also true for release versions of the sources. We have no control over the files on a foreign server. Therefore the sources could vanish at any time.

Author: Trac Migrate 2017-01-30T07:22:07.000Z

Original author: Christian Mauderer

One option would be to add all files to the RTEMS server and download them from here. Another option would be to add them to the RTEMS tools repository (this enables Github as a backup source).

Author: Chris Johns 2017-01-31T05:49:22.000Z

Original author: Christian Mauderer

The ftp server is the best available solution. Please avoid github, they have changed APIs over the years which is fair enough however this breaks the config as well.

Author: Chris Johns 2017-08-14T01:01:20.000Z

Original author: Christian Mauderer

- **Milestone** set to %”Indefinite”

Author: Amar Takhar 2025-09-05T03:02:38.125Z

changed the description

1.5.1.18 2866 - i386 status of libbsd is unknown (opened)

Id	2866
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-01-16T06:42:38.000Z
Updated	2025-09-19T01:46:12.790Z
Milestone	5.4
Labels	libbsd, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2866
Merges	0

Original author: sebastian.huber

Test the latest version of libbsd on an i386 system to figure out if it sill works.

Author: Trac Migrate 2017-01-16T06:42:53.000Z

Original author: sebastian.huber

- **Summary** changed from *i386 of libbsd is unknown* to *i386 status of libbsd is unknown*

Author: Trac Migrate 2017-02-15T14:20:42.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”Indefinite”
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T02:57:37.968Z

changed the description

1.5.1.19 2857 - Improve the I2C framework documentation (opened)

Id	2857
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-12-23T13:44:22.000Z
Updated	2025-09-19T01:46:12.670Z
Milestone	5.4
Labels	doc, old-indefinite, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2857
Merges	0

Original author: sebastian.huber

The I2C framework documentation is quite rudimentary.

Author: Chris Johns 2017-08-14T00:55:55.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.0" to %"4.12.0"

Please review and update the milestone. Thanks.

Author: Trac Migrate 2017-08-24T08:21:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"Indefinite"
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:01:03.968Z

changed the description

1.5.1.20 2856 - Improve the SPI framework documentation (opened)

Id	2856
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-12-23T13:43:01.000Z
Updated	2025-09-19T01:46:12.541Z
Milestone	5.4
Labels	doc, old-indefinite, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2856
Merges	0

Original author: sebastian.huber

The SPI framework documentation is quite rudimentary.

Author: Chris Johns 2017-08-14T00:55:55.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.0" to %"4.12.0"

Please review and update the milestone. Thanks.

Author: Trac Migrate 2017-08-24T08:21:01.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"Indefinite"
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:01:03.761Z

changed the description

1.5.1.21 2854 - What to do with the README files in the RTEMS sources? (opened)

Id	2854
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-12-21T13:49:53.000Z
Updated	2025-09-19T01:46:12.413Z
Milestone	5.4
Labels	doc, old-indefinite, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2854
Merges	0

Original author: sebastian.huber

There are several README files in the RTEMS sources:

```

1 find -iname '*readme*'
2 ./cpukit/libcsupport/src/README
3 ./cpukit/libi2c/README_libi2c
4 ./cpukit/pppd/README
5 ./cpukit/sapi/include/rtems/README
6 ./cpukit/libfs/README
7 ./cpukit/libfs/src/nfsclient/README
8 ./cpukit/libpci/README
9 ./cpukit/dtc/README.license
10 ./cpukit/dtc/README
11 ./cpukit/libmisc/stackchk/README
12 ./cpukit/libmisc/xz/README
13 ./cpukit/libmisc/monitor/README
14 ./cpukit/libmisc/README
15 ./cpukit/libmisc/serdbg/README
16 ./cpukit/libmisc/utf8proc/README
17 ./cpukit/libmisc/cpuuse/README
18 ./cpukit/libmisc/uuid/README
19 ./cpukit/libmisc/mouse/README
20 ./cpukit/libmisc/untar/README
21 ./cpukit/libmisc/fsmount/README
22 ./cpukit/libmisc/capture/README
23 ./cpukit/libmisc/shell/README
24 ./cpukit/libblock/README
25 ./cpukit/librpc/README_RTEMS
26 ./cpukit/librpc/src/rpc/README
27 ./cpukit/telnetd/README
28 ./cpukit/posix/src/README.mqueue
29 ./cpukit/libdrvMgr/README
30 ./cpukit/libnetworking/README
31 ./cpukit/libnetworking/lib/README
32 ./cpukit/score/cpu/sparc/README

```

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```
33 ./cpukit/score/cpu/sparc64/README
34 ./cpukit/zlib/README
35 ./c/src/libchip/serial/README.xr88681
36 ./c/src/libchip/serial/README.z85c30
37 ./c/src/libchip/serial/README
38 ./c/src/libchip/serial/README.ns16550
39 ./c/src/libchip/serial/README.mc68681
40 ./c/src/libchip/network/README.dec21140
41 ./c/src/libchip/network/README.i82586
42 ./c/src/libchip/network/README
43 ./c/src/libchip/network/README.open_eth
44 ./c/src/libchip/network/README.tulipclone
45 ./c/src/libchip/network/README.sonic
46 ./c/src/libchip/network/README.3com
47 ./c/src/libchip/network/README.cs8900
48 ./c/src/libchip/shmdr/README
49 ./c/src/libchip/rtc/README.m48t08
50 ./c/src/libchip/rtc/README.ds1643
51 ./c/src/libchip/rtc/README.icm7170
52 ./c/src/libchip/rtc/README.mc146818a
53 ./c/src/libchip/rtc/README.m48t18
54 ./c/src/README
55 ./c/src/make/README
56 ./c/src/ada-tests/tmtests/tmoverhd/README
57 ./c/src/ada-tests/sptests/sp19/README
58 ./c/src/ada-tests/sptests/sp04/README
59 ./c/src/lib/libbsp/or1k/generic_or1k/README
60 ./c/src/lib/libbsp/i386/pc386/README.dec21140
61 ./c/src/lib/libbsp/i386/pc386/README
62 ./c/src/lib/libbsp/i386/shared/smp/README
63 ./c/src/lib/libbsp/sh/gensh4/README
64 ./c/src/lib/libbsp/sh/shsim/README
65 ./c/src/lib/libbsp/sh/gensh1/README
66 ./c/src/lib/libbsp/sh/gensh2/README
67 ./c/src/lib/libbsp/sh/gensh2/README.EVB7045F
68 ./c/src/lib/libbsp/epiphany/epiphany_sim/README
69 ./c/src/lib/libbsp/mips/hurricane/README
70 ./c/src/lib/libbsp/mips/csb350/README
71 ./c/src/lib/libbsp/mips/rbt4938/README
72 ./c/src/lib/libbsp/mips/rbt4925/README
73 ./c/src/lib/libbsp/mips/jmr3904/README
74 ./c/src/lib/libbsp/mips/shared/gdbstub/README
75 ./c/src/lib/libbsp/m68k/mcf5235/README
76 ./c/src/lib/libbsp/m68k/gen68360/README
77 ./c/src/lib/libbsp/m68k/mcf5329/README
78 ./c/src/lib/libbsp/m68k/uC5282/README
79 ./c/src/lib/libbsp/m68k/csb360/README
80 ./c/src/lib/libbsp/m68k/mcf5206elite/README
81 ./c/src/lib/libbsp/m68k/mvme167/README
```

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```

82 ./c/src/lib/libbsp/m68k/mvme147/README
83 ./c/src/lib/libbsp/m68k/mrm332/README
84 ./c/src/lib/libbsp/m68k/genmcf548x/README
85 ./c/src/lib/libbsp/m68k/mcf5225x/README
86 ./c/src/lib/libbsp/m68k/mvme147s/README
87 ./c/src/lib/libbsp/m68k/mvme162/README.models
88 ./c/src/lib/libbsp/m68k/mvme162/README
89 ./c/src/lib/libbsp/m68k/mcf52235/README
90 ./c/src/lib/libbsp/m68k/av5282/README
91 ./c/src/lib/libbsp/m68k/gen68340/README
92 ./c/src/lib/libbsp/lm32/lm32_evr/README
93 ./c/src/lib/libbsp/lm32/milkymist/README
94 ./c/src/lib/libbsp/lm32/shared/gdbstub/README
95 ./c/src/lib/libbsp/m32c/m32cbasp/README
96 ./c/src/lib/libbsp/sparc/leon2/README
97 ./c/src/lib/libbsp/sparc/leon3/shmsupp/README
98 ./c/src/lib/libbsp/sparc/leon3/README
99 ./c/src/lib/libbsp/sparc/erc32/README
100 ./c/src/lib/libbsp/sparc/shared/net/README
101 ./c/src/lib/libbsp/nios2/README
102 ./c/src/lib/libbsp/README
103 ./c/src/lib/libbsp/no_cpu/no_bsp/README
104 ./c/src/lib/libbsp/v850/gdbv850sim/README
105 ./c/src/lib/libbsp/powerpc/virtex4/README
106 ./c/src/lib/libbsp/powerpc/mvme5500/README.VME
107 ./c/src/lib/libbsp/powerpc/mvme5500/README.booting
108 ./c/src/lib/libbsp/powerpc/mvme5500/README
109 ./c/src/lib/libbsp/powerpc/mvme5500/README.irq
110 ./c/src/lib/libbsp/powerpc/beatnik/network/if_em/README
111 ./c/src/lib/libbsp/powerpc/beatnik/network/porting/README
112 ./c/src/lib/libbsp/powerpc/beatnik/README
113 ./c/src/lib/libbsp/powerpc/mvme3100/README
114 ./c/src/lib/libbsp/powerpc/gen83xx/README.mpc8349eamds
115 ./c/src/lib/libbsp/powerpc/gen83xx/README.mpc8313erdb
116 ./c/src/lib/libbsp/powerpc/gen5200/README
117 ./c/src/lib/libbsp/powerpc/gen5200/README.IceCube
118 ./c/src/lib/libbsp/powerpc/haleakala/README
119 ./c/src/lib/libbsp/powerpc/qoriq/README
120 ./c/src/lib/libbsp/powerpc/virtex5/README
121 ./c/src/lib/libbsp/powerpc/motorola_powerpc/README.mtx603e
122 ./c/src/lib/libbsp/powerpc/motorola_powerpc/README.dec21140
123 ./c/src/lib/libbsp/powerpc/motorola_powerpc/README
124 ./c/src/lib/libbsp/powerpc/motorola_powerpc/README.MVME2300
125 ./c/src/lib/libbsp/powerpc/motorola_powerpc/README.OTHERBOARDS
126 ./c/src/lib/libbsp/powerpc/motorola_powerpc/README.MVME2400
127 ./c/src/lib/libbsp/powerpc/motorola_powerpc/README.qemu
128 ./c/src/lib/libbsp/powerpc/motorola_powerpc/README.MVME2100
129 ./c/src/lib/libbsp/powerpc/mpc55xxevb/README
130 ./c/src/lib/libbsp/powerpc/ss555/README

```

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```
131 ./c/src/lib/libbsp/powerpc/psim/network/README
132 ./c/src/lib/libbsp/powerpc/psim/shmsupp/README
133 ./c/src/lib/libbsp/powerpc/psim/vectors/README
134 ./c/src/lib/libbsp/powerpc/psim/README
135 ./c/src/lib/libbsp/powerpc/virtex/README
136 ./c/src/lib/libbsp/powerpc/tqm8xx/README
137 ./c/src/lib/libbsp/powerpc/mpc8260ads/network/README
138 ./c/src/lib/libbsp/powerpc/mpc8260ads/README
139 ./c/src/lib/libbsp/powerpc/t32mppc/README
140 ./c/src/lib/libbsp/powerpc/qemuppc/README
141 ./c/src/lib/libbsp/powerpc/shared/vme/README
142 ./c/src/lib/libbsp/powerpc/shared/bootloader/README
143 ./c/src/lib/libbsp/bfin/bf537Stamp/README
144 ./c/src/lib/libbsp/bfin/eZKit533/README
145 ./c/src/lib/libbsp/bfin/TLL6527M/README
146 ./c/src/lib/libbsp/arm/csb337/README.kit637_v6
147 ./c/src/lib/libbsp/arm/csb337/README
148 ./c/src/lib/libbsp/arm/rtl22xx/README
149 ./c/src/lib/libbsp/arm/stm32f7x/hal/CMSIS/README.txt
150 ./c/src/lib/libbsp/arm/smdk2410/README
151 ./c/src/lib/libbsp/arm/atsam/README
152 ./c/src/lib/libbsp/arm/csb336/README
153 ./c/src/lib/libbsp/arm/stm32f4/README
154 ./c/src/lib/libbsp/arm/tms570/README
155 ./c/src/lib/libbsp/arm/realview-pbx-a9/README
156 ./c/src/lib/libbsp/arm/gumstix/README
157 ./c/src/lib/libbsp/arm/lpc24xx/README
158 ./c/src/lib/libbsp/arm/beagle/pwm/README
159 ./c/src/lib/libbsp/arm/beagle/README
160 ./c/src/lib/libbsp/arm/beagle/README.JTAG
161 ./c/src/lib/libbsp/arm/lpc176x/README
162 ./c/src/lib/libbsp/arm/xilinx-zynq/README
163 ./c/src/lib/libbsp/arm/altera-cyclone-v/README
164 ./c/src/lib/libbsp/arm/altera-cyclone-v/hwlib/README.txt
165 ./c/src/lib/libbsp/arm/lpc32xx/README
166 ./c/src/lib/libbsp/arm/lm3s69xx/README
167 ./c/src/lib/libbsp/arm/raspberrypi/README
168 ./c/src/lib/libbsp/arm/edb7312/README
169 ./c/src/lib/libbsp/arm/stm32f4x/hal/CMSIS/README.txt
170 ./c/src/lib/libbsp/arm/shared/CMSIS/README
171 ./c/src/lib/libbsp/sparc64/usiii/README
172 ./c/src/lib/libbsp/sparc64/niagara/README
173 ./c/src/lib/libbsp/sparc64/shared/helenos/README
174 ./c/src/lib/libbsp/shared/umon/README
175 ./c/src/lib/libbsp/shared/vmeUniverse/README.porting
176 ./c/src/lib/libbsp/shared/vmeUniverse/README.universe
177 ./c/src/lib/libcpu/mips/mongoosev/README
178 ./c/src/lib/libcpu/m68k/m68040/fpsp/README
179 ./c/src/lib/libcpu/README
```

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```

180 ./c/src/lib/libcpu/powerpc/new-exceptions/bsp-support/README
181 ./c/src/lib/libcpu/powerpc/mpc8xx/README
182 ./c/src/lib/libcpu/powerpc/mpc8260/README
183 ./c/src/lib/libcpu/powerpc/README
184 ./c/src/lib/libcpu/powerpc/mpc5xx/README
185 ./c/src/lib/libcpu/powerpc/mpc6xx/altivec/README
186 ./c/src/lib/libcpu/powerpc/ppc403/vectors/README
187 ./c/src/lib/libcpu/powerpc/ppc403/README
188 ./c/src/lib/libcpu/bfin/README
189 ./README
190 ./testsuites/samples/pppd/README
191 ./testsuites/samples/README
192 ./testsuites/samples/loopback/README
193 ./testsuites/mptests/README
194 ./testsuites/README
195 ./testsuites/tmtests/README
196 ./testsuites/libtests/termios/README
197 ./testsuites/libtests/README
198 ./testsuites/libtests/POSIX/README
199 ./testsuites/psxtmtests/README
200 ./testsuites/smptests/README
201 ./testsuites/sptests/README
202 ./testsuites/rhealstone/README
203 ./doc/README
204 ./tools/cpu/nios2/README
205 ./tools/build/README

```

Should there be README files at all?

What should they contain?

How should they be formatted?

What is the relationship to the Wiki BSP pages: [wiki:TBR/Website/Board_Support_Packages](http://wiki.tbr/Website/Board_Support_Packages)?

Author: Chris Johns 2016-12-21T23:24:33.000Z

Original author: sebastian.huber

I think grouping all READMEs together does not work, it forces a lowest common denominator. We should consider each type separately. I see:

1. BSP
2. Testsuite
3. 3rd Party packages
4. RTEMS kernel, ie the top level, c/src etc.

I think important information about a BSP needs to be captured in `rtems-docs.git`. The documentation on a BSP forms an interface a user of the BSP can rely on and we need to make sure it is stable across releases. We also need to make changes clear to users with specifics on how to migrate.

The wiki can contain transient and less formal documentation, for example how to use a specific debugger.

I do not know about these.

If a copy of the original package, leave.

No idea. I suspect they will not be needed in a waf build system.

TRB in the wiki means “To Be Reviewed” or “To Be Removed” depending on how you want to look at the pages. I feel the wiki needs be cleaned up, containing only relevant pages to be seriously considered a suitable place to add important documentation. Adding to the current pages means you need to know the history and importance to know how valid the pages are.

Author: Chris Johns 2017-08-14T00:55:55.000Z

Original author: sebastian.huber

- **Milestone** changed from %”5.0” to %”4.12.0”

Please review and update the milestone. Thanks.

Author: Trac Migrate 2017-08-24T08:23:26.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”Indefinite”

Author: Trac Migrate 2017-10-25T13:03:22.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2018-06-26T09:21:34.000Z

Original author: sebastian.huber

In [changeset:”8e3de165c0216d031a909f3981712626cf462a23/rtems-docs”
8e3de16/rtems-docs]:

```

1 user: Add ARM BSPs chapter
2
3 Add NXP i.MX section as a BSP example.
4
5 Update #2854.
```

Author: Trac Migrate 2018-08-29T05:47:13.000Z

Original author: sebastian.huber

In [changeset:"a6fca762b69164b68c3579ad22bb5f53befdc303/rtems" a6fca76/rtems]:

```
1 bsp/qorik: Remove README
2
3 Update #2854.
```

Author: Trac Migrate 2018-08-29T05:47:59.000Z

Original author: sebastian.huber

In [changeset:"c476ccefc39965abdf89fc660be955332e36b3d0b/rtems-docs" c476cce/rtems-docs]:

```
1 user: Add qorik BSP section
2
3 Update #2854.
```

Author: Amar Takhar 2025-09-05T02:57:37.816Z

mentioned in issue [#2855](#)

Author: Amar Takhar 2025-09-05T03:01:03.545Z

changed the description

1.5.1.22 2834 - Cilk Plus support (opened)

Id	2834
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-12-07T07:48:09.000Z
Updated	2025-09-19T01:46:12.297Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2834
Merges	0

Original author: sebastian.huber

Cilk Plus is a C++ language extension developed by Intel. It is proposed as a C++ standard extension. It uses a work stealing scheduler. Similar to OpenMP it consists of two parts,

- the code generation by the compiler, and
- a run-time library.

The code generation works for the RTEMS using a recent GCC. It is feasible to port the run-time library (libcilkrt) to RTEMS. However, some issues must be dealt with.

- Currently virtual memory via `mmap()` is used to manage the worker stacks (cactus-stack).
- This could be changed to use a pool allocator.
- What happens in case of stack overflows, e.g. no protection pages?

Author: Trac Migrate 2016-12-07T07:48:24.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 Cilk Plus is a C++ language extension developed by Intel. It is_
  ↪proposed as a
2 C++ standard extension.
3 It uses a work stealing scheduler. Similar to OpenMP it
4 consists of two parts,
5
6 * the code generation by the compiler, and
7 * a run-time library.
8
9 The code generation works for the RTEMS using a recent GCC. It is_
  ↪feasible to
10 port the run-time library (libcilkrt) to RTEMS. However, some issues_
  ↪must
11 be dealt with.
12
13 * Currently virtual memory via `mmap()` is used to manage the worker_
  ↪stacks (cactus-stack).
14 * This could be changed to use a pool allocator.
15 - & What happens in case of stack overflows, e.g. no protection pages?
16 ? ^
17
18 + * What happens in case of stack overflows, e.g. no protection pages?
19 ? ^

```

Author: Trac Migrate 2016-12-07T07:49:07.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 + Cilk Plus is a C++ language extension developed by Intel. It is_
  ↪proposed as a C++ standard extension. It uses a work stealing_
  ↪scheduler. Similar to OpenMP it consists of two parts,

```

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```

2 - Cilk Plus is a C++ language extension developed by Intel. It is_
   ↳ proposed as a
3 - C++ standard extension.
4 - It uses a work stealing scheduler. Similar to OpenMP it
5 - consists of two parts,
6
7 * the code generation by the compiler, and
8 * a run-time library.
9
10 + The code generation works for the RTEMS using a recent GCC. It is_
   ↳ feasible to port the run-time library (libcilkrt) to RTEMS. However,_
   ↳ some issues must be dealt with.
11 - The code generation works for the RTEMS using a recent GCC. It is_
   ↳ feasible to
12 - port the run-time library (libcilkrt) to RTEMS. However, some issues_
   ↳ must
13 - be dealt with.
14
15 * Currently virtual memory via `mmap()` is used to manage the worker_
   ↳ stacks (cactus-stack).
16 * This could be changed to use a pool allocator.
17 * What happens in case of stack overflows, e.g. no protection pages?

```

Author: Trac Migrate 2016-12-07T07:49:37.000Z

Original author: sebastian.huber

This ticket depends on [#2833](#).

Author: Chris Johns 2017-08-14T00:55:55.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.0" to %"4.12.0"

Please review and update the milestone. Thanks.

Author: Chris Johns 2017-08-23T22:53:24.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Amar Takhar 2025-09-05T03:02:36.111Z

changed the description

1.5.1.23 2793 - cpuuuse shell command documentation needs an update (opened)

Id	2793
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-09-30T05:47:08.000Z
Updated	2025-09-19T01:46:12.203Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2793
Merges	0

Original author: sebastian.huber

https://docs.rtems.org/doc-current/share/rtems/html/shell/RTEMS-Specific-Commands-cpuuse-_002d-print-or-reset-per-thread-cpu-usage.html#RTEMS-Specific-Commands-cpuuse-_002d-print-or-reset-per-thread-cpu-usage

This section is outdated and incomplete.

Author: Trac Migrate 2017-02-15T14:20:42.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"Indefinite"
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:02:35.206Z

changed the description

1.5.1.24 2791 - C++11 std::exception_ptr support (opened)

Id	2791
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-09-27T11:13:50.000Z
Updated	2025-09-19T01:46:12.113Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2791
Merges	0

Original author: sebastian.huber

The C++11 `std::exception_ptr` support needs GCC changes for targets not supporting lock-free atomic operations.

http://en.cppreference.com/w/cpp/error/exception_ptr

<https://gcc.gnu.org/ml/libstdc++/2016-09/msg00144.html>

Author: Trac Migrate 2017-02-15T14:20:42.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”Indefinite”
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:02:35.004Z

changed the description

1.5.1.25 2787 - Add support functions for UBSAN (GCC option `-fsanitize=undefined`) (opened)

Id	2787
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-09-20T08:10:30.000Z
Updated	2025-09-19T01:46:12.021Z
Milestone	5.4
Labels	old-indefinite, priority::normal, rtems::score, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2787
Merges	0

Original author: sebastian.huber

See also:

<http://developerblog.redhat.com/2014/10/16/gcc-undefined-behavior-sanitizer-ubsan/>

We need RTEMS support for libsanitizer (contains also ASAN, TSAN and LSAN in GCC or a free-standing implementation like on Linux:

<http://lxr.free-electrons.com/source/lib/ubsan.h> <http://lxr.free-electrons.com/source/lib/ubsan.c>

Author: Trac Migrate 2017-02-15T14:20:42.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”Indefinite”
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:02:34.787Z

changed the description

1.5.1.26 2786 - Remove the devfs in favor of a stripped down IMFS configuration (opened)

Id	2786
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-09-19T08:05:40.000Z
Updated	2025-09-19T01:46:11.932Z
Milestone	5.4
Labels	filesystem, old-indefinite, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2786
Merges	0

Original author: sebastian.huber

The IMFS offers the ability to register generic nodes for device drivers. This feature is not available in the devfs. The devfs offers little benefit compared to a stripped down IMFS configuration.

Author: Joel Sherrill 2016-09-19T14:42:54.000Z

Original author: sebastian.huber

The devfs was added for at least two purposes. Just saying it doesn't support a particular feature isn't enough to obsolete it. You need to do a lot better job at justifying this change.

The devfs was added for at least two purposes:

- to have a smaller footprint filesystem that supported only device nodes. Otherwise, no console or other device access was possible.
- to have a much simpler root filesystem that was an alternative for systems which had completely disabled all filesystem support prior to this point.

If the mini-IMFS has shrunk to the point where there is little difference, then the first point is addressed. But you didn't provide data.

The complexity of the mini-IMFS in a system that only wants devices is a topic that hasn't even been touched on and will require some analysis.

Author: Trac Migrate 2016-09-20T05:38:07.000Z

Original author: sebastian.huber

The devfs has some design flaws.

- It uses a link-time configured fixed-size table to store the devices.
- It uses the standard RTEMS drivers.

The standard RTEMS drivers have some design flaws

- They use a link-time configured fixed-size table. A const array of handlers is copied into one of the table entries via `rtems_io_register_driver()`, e.g. size is doubled.
- They are not able to fully support the handlers available via the filesystem layer (`rtems_filesystem_file_handlers_r`), e.g. no `kqueue()`, `fsync()`.
- There is a considerable layering before you reach the device handler with a parameter pack/unpack, e.g.

```

1 #0 rtems_termios_write (arg=0x2046a50) at ../../../../../../rtems/c/
   ↪src/../../../../cpukit/libcsupport/src/termios.c:1100
2 #1 0x0201ad48 in rtems_io_write (major=major@entry=0,
   ↪minor=minor@entry=0, argument=argument@entry=0x2046a50) at ../../../../../../
   ↪../../../../rtems/c/src/../../../../cpukit/sapi/src/iowrite.c:36
3 #2 0x0201aa84 in rtems_deviceio_write (iop=0x2027bb0 <rtems_libio_
   ↪iops+112>, buf=0x2021550 <_rodata_start+128>, nbyte=20, major=0,
   ↪minor=0) at ../../../../../../rtems/c/src/../../../../cpukit/libcsupport/
   ↪src/sup_fs_deviceio.c:109
4 #3 0x02021310 in write (fd=<optimized out>, buffer=0x2021550 <_rodata_
   ↪start+128>, count=20) at ../../../../../../rtems/c/src/../../../../cpukit/
   ↪libcsupport/src/write.c:48

```

vs.

```

1 #0 rtems_termios_imfs_write (iop=0x20c1d0 <rtems_libio_iops+112>,
   ↪buffer=0x1300a0, count=20) at ../../../../../../rtems/c/src/../../../../
   ↪cpukit/libcsupport/src/termios.c:1931
2 #1 0x0012fbcc in write (fd=2, buffer=0x1300a0, count=20) at ../../../../../../
   ↪../../../../rtems/c/src/../../../../cpukit/libcsupport/src/write.c:48

```

For an example how IMFS can be configured, see `fstests/fsimfsconfig0[123]`.

Author: Trac Migrate 2017-02-15T14:20:42.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”Indefinite”
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:02:34.581Z

changed the description

1.5.1.27 2774 - RTEMS loaded by u-boot with dcache, icache and mmu enable does not boot. (opened)

Id	2774
State	opened
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2016-08-08T06:31:47.000Z
Updated	2025-09-19T01:46:11.840Z
Milestone	5.4
Labels	bsp, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2774
Merges	0

The arm/xilinx_zynq_zedboard does not boot with a recent u-boot built from git (b2f1858455e99a91aeafe59ac73c6c047106d5e8). I have tracked the issue down to the MMU initialization and I am wondering if there are a few issues we need to look at closer. I think RTEMS could handle this case a little better and this would improve the ARM support making it more resilient to how it is run.

I have the code booting and running and these are the changes.

1. In `arm_cp15_start_setup_translation_table` in `arm-cp15-start.h` I moved the `arm_cp15_set_translation_table_base` to after the table is created. While this is not that important I did find when looking into this problem it improved things when I had a call to `arm_cp15_data_cache_clean_all_levels()` before setting the table base. I am not sure the cache clear is needed.
2. In the `zynq_setup_mmu_and_cache` I detect the MMU being enabled and if enabled I:

```

1 uint32_t ctrl = arm_cp15_get_control();
2
3 if ((ctrl & ARM_CP15_CTRL_M) != 0) {
4   arm_cp15_data_cache_clean_all_levels();
5   ctrl &= ~(ARM_CP15_CTRL_C | ARM_CP15_CTRL_I | ARM_CP15_CTRL_M);
6   arm_cp15_set_control(ctrl);
7   arm_cp15_tlb_invalidate();
8 }

```

This lets ticker run.

Author: Trac Migrate 2017-02-15T14:20:42.000Z

- **Milestone** changed from %"4.12" to %"Indefinite"
- **Owner** set to Needs Funding

- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:02:34.385Z

changed the description

1.5.1.28 2763 - Incorrect exit if condition for capture_flags_global in cpukit/libmisc/capture/capture.c (opened)

Id	2763
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-07-20T12:08:06.000Z
Updated	2025-09-19T01:46:11.747Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2763
Merges	0

Original author: vivekkukreja

In capture engine, capture_flags_global is set to RTEMS_CAPTURE_ON when 'cenable' command is run, but the 'ctrace' command exits incorrectly due to the following if condition: if ((capture_flags_global & RTEMS_CAPTURE_ON) != 0)

This should be replaced by: if ((capture_flags_global & RTEMS_CAPTURE_ON) == 0)

Author: Trac Migrate 2017-02-15T14:20:42.000Z

Original author: vivekkukreja

- **Milestone** changed from %"4.12" to %"Indefinite"
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:02:33.730Z

changed the description

1.5.1.29 2759 - Unlinking large files in RFS never ends (opened)

Id	2759
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-07-14T23:36:54.000Z
Updated	2025-09-19T01:46:11.658Z
Milestone	5.4
Labels	filesystem, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2759
Merges	0

Original author: snob-wolpike

Steps to reproduce:

- Create large file under RFS (~256Mb).
- Try to delete it using 'unlink()'.
- 'unlink()' call never finishes.

Reproduced under RTEMS 4.12 using i386 BSP under Qemu. Should also work under 4.11.

- [testrfs.c](#)

Author: Trac Migrate 2016-07-14T23:37:37.000Z

Original author: snob-wolpike

- **Attachment** [testrfs.c](#) added

Author: Trac Migrate 2016-07-15T12:22:59.000Z

Original author: snob-wolpike

Reproduced on Kontron P2020 with QoriQ BSP with RTEMS 4.11

Author: Trac Migrate 2017-01-26T07:16:00.000Z

Original author: snob-wolpike

- **Milestone** changed from %"4.11.1" to %"4.11.2"

Author: Trac Migrate 2017-02-15T13:44:44.000Z

Original author: snob-wolpike

- **Milestone** changed from %"4.11.2" to %"Indefinite"

- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:02:33.531Z

changed the description

1.5.1.30 2733 - raspberrypi: SPI driver has several flaws (opened)

Id	2733
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-06-11T10:27:36.000Z
Updated	2025-09-19T01:46:11.569Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2733
Merges	0

Original author: soja

I started to work with the SPI of the raspberry pi and noticed several problems with the current driver after recording the frames with a logic analyzer:

- Setting the chip select signal using the CSPOL-bits of the control register creates incorrect chip select signals
- After every byte written to the TX FIFO buffer the driver waits for a signal from an interrupt. This creates very long pauses between consecutive bytes.
- The lsb-first mode does not look as if it would work
- 3-wire/bidirectional mode might not work
- Accessing the driver from a different thread than the one which called `spi_init` will cause a deadlock
- Simultaneous read-write-operation is not supported

I will submit a patchset for this after some testing.

Author: Trac Migrate 2017-02-15T14:20:42.000Z

Original author: soja

- **Milestone** changed from %"4.12" to %"Indefinite"
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:02:33.143Z

changed the description

1.5.1.31 2716 - _POSIX_signals_Check_signal() may pass random data to sigaction handler (opened)

Id	2716
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-05-18T06:32:37.000Z
Updated	2025-09-19T01:46:11.470Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/2716
Merges	0

Original author: sebastian.huber

_POSIX_signals_Check_signal() passes a siginfo_t structure residing on the stack to the sigaction handler which is not set up in all paths of _POSIX_signals_Clear_signals().

Author: Chris Johns 2017-08-14T00:55:55.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.0" to %"4.12.0"

Please review and update the milestone. Thanks.

Author: Trac Migrate 2017-08-24T08:24:34.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Amar Takhar 2025-09-05T03:02:32.685Z

changed the description

1.5.1.32 2712 - `_rtems_octal2ulong` shared by tar code. (opened)

Id	2712
State	opened
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2016-05-15T23:01:05.000Z
Updated	2025-09-19T01:46:11.372Z
Milestone	5.4
Labels	filesystem, old-indefinite, priority::normal, tickettype::defect, version::4.11, version::4.12, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2712
Merges	0

The function `_rtems_octal2ulong` provided in `cpukit/libmisc/untar/untar.c` is used internally in this file plus it is used in the IMFS load tar implementation.

These are separate implementations and this small piece of code joins these modules together. Sure, function level linking helps but I do not think we should share this code

Why not use `'strtoul(str, &end, 8)'` to convert the octal number?

Author: Chris Johns 2017-03-27T06:48:47.000Z

- **Milestone** changed from `%”4.12.1”` to `%”4.12.0”`

Move to the first 4.12 milestone.

Author: Trac Migrate 2017-06-08T08:20:02.000Z

- **Milestone** changed from `%”4.12.0”` to `%”Indefinite”`

Author: Trac Migrate 2017-06-08T08:21:27.000Z

`strtoul()` pulls in the locale support. We should ban this function from the RTEMS core.

Author: Chris Johns 2017-08-14T00:11:59.000Z

- **Version** changed from `~”4.11”` to `~”4.12”`

Author: Amar Takhar 2025-09-05T03:02:32.481Z

changed the description

1.5.1.33 2699 - RSB leak to check libz1g-dev and Python-dev (opened)

Id	2699
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2016-04-23T17:29:32.000Z
Updated	2025-09-19T01:46:11.280Z
Milestone	5.4
Labels	old-indefinite, priority::low, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2699
Merges	0

Original author: printk

This two package is needed but RSB does not check for these.

Author: Trac Migrate 2016-04-23T17:31:22.000Z

Original author: printk

- **Cc** added @rtems@21cn.com

Author: Chris Johns 2016-04-23T23:59:01.000Z

Original author: printk

I will leave this ticket open but I have no timeline on looking at adding support to check for installed packager on a per host basis.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

Original author: printk

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: printk

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Chris Johns 2018-04-13T01:24:47.000Z

Original author: printk

- **Milestone** changed from %”5.1” to %”Indefinite”

This change needs funding.

Author: Amar Takhar 2025-09-05T03:01:02.042Z

changed the description

1.5.1.34 2697 - Function for getting a time_t from a struct tm in UTC (like timegm on Linux and BSD) (opened)

Id	2697
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-04-19T09:46:52.000Z
Updated	2025-09-19T01:46:11.178Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::enhancement, tool::newlib, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2697
Merges	0

Original author: Christian Mauderer

It seems that there is no thread save possibility to convert a struct tm that holds a UTC time into a time_t (the inverse of the POSIX gmtime() function). mktime does this for the current locale only.

Linux and BSD provide a non-POSIX-function called timegm() (see <http://linux.die.net/man/3/timegm>). According to the man page, the use of this functions should be avoided. The linked man page provides a solution that only uses POSIX functions. But that solution is not thread save.

We should think about adding timegm() to newlib for compatibility with applications that use it (e.g. the civetweb web server).

Author: Gedare Bloom 2016-04-19T16:06:53.000Z

Original author: Christian Mauderer

Should be sent to newlib mailing list, but I think this is probably the right thing to do.

Author: Trac Migrate 2016-04-20T14:00:11.000Z

Original author: Christian Mauderer

I currently didn't sent it to the newlib mailinglist because my time budget doesn't allow that I start to work on it at the moment. I hope that I'm able to implement it sometimes in the future.

Author: Joel Sherrill 2016-04-20T17:37:54.000Z

Original author: Christian Mauderer

I only found this method in the crypto library in FreeBSD:

<https://github.com/freebsd/freebsd/blob/master/crypto/heimdal/lib/asn1/timemgm.c>

Is it anywhere else in FreeBSD?

I am not opposed to pursuing it being added to newlib.

Author: Trac Migrate 2016-04-21T05:22:53.000Z

Original author: Christian Mauderer

It seems that the solution in the crypto library is a simplified one that does not care for leap seconds or similar. To be honest, I had not found this one. But I found three others in freebsd:

- A comprehensive implementation can be found in the tzcode area:

<https://github.com/freebsd/freebsd/blob/master/contrib/tzcode/stdtime/localtime.c> This implementation uses the same functions for mktime and timegm.

- Another implementation in ldns uses the solution from the man page. But that is not thread save:

<https://github.com/freebsd/freebsd/blob/master/contrib/ldns/compat/timegm.c>

- A third implementation is in the ntp area:

<https://github.com/freebsd/freebsd/blob/master/contrib/ntp/libntp/mktime.c>

As far as I can see, the one from tzcode is the one that handles the most details. It might would make sense to use this implementation for mktime as well as timegm

Author: Chris Johns 2017-08-14T01:01:53.000Z

Original author: Christian Mauderer

- **Milestone** set to %”Indefinite”

Author: Amar Takhar 2025-09-05T03:02:31.828Z

changed the description

1.5.1.35 2666 - RSB docs yum on way out .. use dnf (opened)

Id	2666
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2016-03-19T20:07:48.000Z
Updated	2025-09-19T01:46:11.063Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, tool::rtems-source-builder, version::4.10, version::4.12, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2666
Merges	0

This ticket is a note that rtbf64a which is running Fedora 22 gave a warning that yum is being replaced with a tool named dnf (do not find?). The RSB doc will have to be updated to have the development environment install command once we figure out what that is.

This applies to all versions of the RSB docs.

Author: Joel Sherrill 2016-03-19T20:17:16.000Z

This article sheds more light.

<https://www.linux.com/learn/tutorials/838176-what-you-need-to-know-about-fedoras-switch-from-yum-to-dnf>

From our perspective a minor documentation issue. But it does make you wonder about stable interfaces. Do we do this to our users? Wipe out over a decade of sysadmin experience with an interface?

Author: Chris Johns 2016-03-19T20:34:44.000Z

- **Milestone** changed from %"4.11" to %"4.12"
- **Version** changed from ~"4.10" to ~"4.12"

The RSB is python 2 and 3 clean. I am pleased I did that change.

I have moved this ticket to 4.12. Any doco changes can be back ported when ready.

Author: Joel Sherrill 2016-03-20T16:27:38.000Z

Looks like for installation purposes "dnf install" works just like "yum install". Based on the article I linked above, there are differences but the most common use case appears to be the same.

So this should be nothing more than adding a sentence like the following to the Fedora specific section:

NOTE: In Fedora 22 and above, the yum command has been deprecated in favor of the dnf command. Use "dnf install ..." rather than "yum install ..."

And at some point in the future, we will have to address the CentOS/RHEL section and when they obsolete a yum wrapper, we will have to flip from yum first with a note to dnf first with a note for older Fedora systems. CentOS/RHEL will have to treat versions with yum as equals to versions with dnf due to the longevity.

Or we could just start now, and say ... On Fedora 22 and above, do this... and on Fedora 21 and below do this... Later copy that pattern to CentOS/RHEL if version 8 uses dnf.

Author: Trac Migrate 2017-02-15T14:20:42.000Z

- **Milestone** changed from %"4.12" to %"Indefinite"
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:02:30.416Z

changed the description

1.5.1.36 2665 - Convert _TOD_To_seconds to use mktime? (opened)

Id	2665
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2016-03-18T20:34:17.000Z
Updated	2025-09-19T01:46:10.919Z
Milestone	5.4
Labels	old-indefinite, priority::normal, rtems::score, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2665
Merges	0

Our implementation of _TOD_To_seconds uses our own math. Given that this should be doing the equivalent of the POSIX method mktime(), I believe we should switch to that as the implementation of this method. At a minimum, this would ensure the implementation is correct. Worst case, it deletes some code which is hard to be sure it is 100% correct from our code base.

Author: Chris Johns 2016-03-19T02:14:30.000Z

I changed rtems_clock_get_tod away from newlib a couple of years ago because of the 2038 bug and improved the implementation to not contain loops. I think performance is important in these calls.

Does the RTEMS call need to deal with timezones and the overhead it creates?

Author: Joel Sherrill 2016-03-19T15:02:52.000Z

No on timezones. This is strictly convert the time of day structure into a `time_t`. If you are happy with the implementation, then I am also. This was just a question from coming across this method while teaching the class and wondering.

I do think it needs to be a public method named something like `rtems_clock_tod_to_seconds()` or `rtems_clock_tod_to_time_t()`. It is used by the shared RTC driver by the private name.

Author: Chris Johns 2016-03-19T19:13:29.000Z

Replying to [joel.sherrill](#):

No on timezones.

I think POSIX handles this so this would be a performance and size thing.

This is strictly convert the time of day structure into a `time_t`. If you are happy with the implementation, then I am also. This was just a question from coming across this method while teaching the class and wondering.

I would need to take a close look. I have not done this.

I do think it needs to be a public method named something like `rtems_clock_tod_to_seconds()` or `rtems_clock_tod_to_time_t()`. It is used by the shared RTC driver by the private name.

Good idea.

Author: Trac Migrate 2016-03-21T07:33:10.000Z

We should first clearly define the time of day in RTEMS, see also [#2189](#). There are reasons, why for example this code is a bit more complicated (e.g. leap seconds):

<https://svnweb.freebsd.org/base/head/contrib/tzcode/stdtime/localtime.c?revision=289027&view=markup>

Author: Joel Sherrill 2016-03-21T14:40:36.000Z

The original specifications RTEMS is based upon are here:

<https://ftp.rtems.org/pub/rtems/people/joel/RTEID-ORKID/>

to the best of my recollection, there is no mention of epoch, timezones, leap seconds, or leap years. The epoch of 1988 was chosen since it was the leap year immediately prior to the inception of RTEMS as a project.

At one point, the computation from `tod` to `time_t` did look like the reference in [#2189](#).

I’m not trying to be argumentative but at this point, the score time is POSIX time and the tod returned is an alternative representation of that with the limitation that you can’t set the time prior to 1988 via the Classic API.

Timezone is via the C Library and leap seconds would be the responsibility of ntp or other time syncing services.

This ticket is simply that this conversion doesn’t look like a standard algorithm. The ticket you reference is asking to document the relationships of various time representations/APIs.

Author: Trac Migrate2017-02-15T14:20:42.000Z

- **Milestone** changed from %”4.12” to %”Indefinite”
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar2024-04-25T20:48:43.724Z

mentioned in issue [#4338](#)

Author: Amar Takhar2025-09-05T02:57:02.999Z

changed the description

1.5.1.37 2635 - Promote pci_scan() to public shared PCI method (opened)

Id	2635
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2016-03-09T22:25:10.000Z
Updated	2025-09-19T01:46:10.782Z
Milestone	5.4
Labels	bsp, old-indefinite, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2635
Merges	0

The new libbsp/shared/pci/pci_find_device.c is based upon the pcifinddevice.c from PowerPC and MIPS BSPs. There were multiple copies of the same code across multiple BSPs. This ticket is the clean up required to remove the last user of a copy and then have only one copy.

It renamed BSP_pciScan() to pci_scan() and made it a static routine. This method should be made public in the shared implementation, uses of BSP_pciScan() modified to use pci_scan(), and the impacted BSPs’ Makefile.am modified to use the shared pci_find_device.c.

BSP_pciScan() is used by some component(s) used by each of the following BSPs:

beatnik motorola_shared mvme3100

This impacts the following BSPs.

```
$ grep -rl BSP_pciScan . ./c/src/lib/libbsp/powerpc/beatnik/pci/motload_fixup.c
./c/src/lib/libbsp/powerpc/beatnik/network/support/bsp_attach.c
./c/src/lib/libbsp/powerpc/mvme3100/pci/detect_host_bridge.c ./c/src/lib/libbsp/powerpc/shared/pci/pci.h
./c/src/lib/libbsp/powerpc/shared/pci/pcfnddevice.c
```

Author: Trac Migrate 2017-02-15T14:20:42.000Z

- **Milestone** changed from %"4.12" to %"Indefinite"
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:02:29.631Z

changed the description

1.5.1.38 2552 - Add per-section compilation and rtems dynamic linking support (opened)

Id	2552
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2016-01-26T11:56:11.000Z
Updated	2025-09-19T01:46:10.662Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, version::5, version::7
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2552
Merges	0

Original author: SergKruglov

If rtems libraries and image build with per-section compilation flags rap files (maybe and other) build with duplicate symbols(objects). Gnu ld with flag -gc-sections remove unnecessary symbols(objects)? but rtems-ld this does. I wrote small sample with 3 projects: a) static lib libtst.a with one file tst.c tst.c

```
1 int abcd=5;
2 void funcA(void)
3 {
4     abcd=7;
5 }
6 void funcB(void)
7 {
8 }
```

b) any rtems project (minimal or any) linked with this lib and in Init call function from lib

```

1 extern void funcA(void);
2 extern int abcd;
3 rtems_task Init(rtems_task_argument argument) {
4   funcA();
5   abcd = 9;
6   rtems_task_delete(RTEMS_SELF);
7 }

```

c) rap file project with core image from b) and library from a) test.c

```

1 extern void funcB(void);
2 void rtems(void)
3 {
4   funcB();
5 }

```

After generate map files with rtems-rap -sSr

Map file without per-section compilation testrap.rap:

```

1 Strings: 0x00000074 (116) size: 14
2 0 (0x000000):
3 1 (0x000001): rtems
4 2 (0x000007): rtems
5 3 (0x00000d):
6 Symbols: 0x00000082 (130) size: 12
7 data section value name
8 0: 0x0012 .text 0x00000000 rtems
9 Relocations: 0x0000008e (142)
10 .text: info offset addend symbol name
11 0: 0x80000504 0x00000008 0x00000000 funcB

```

Map file with per-section compilation testrap.rap:

```

1 Strings: 0x00000090 (144) size: 31
2 0 (0x000000):
3 1 (0x000001): rtems
4 2 (0x000007): funcA
5 3 (0x00000d): abcd
6 4 (0x000012): funcB
7 5 (0x000018): rtems
8 6 (0x00001e):
9 Symbols: 0x000000af (175) size: 48
10 data section value name
11 0: 0x0012 .text 0x00000000 rtems
12 1: 0x0012 .text 0x00000000 funcA
13 2: 0x0011 .data 0x00000000 abcd
14 3: 0x0012 .text 0x00000000 funcB
15 Relocations: 0x000000df (223)
16 .text: info offset addend symbol name
17 0: 0xc0001204 0x00000008 0x00000000

```

(continues on next page)

(continued from previous page)

```

18 1: 0xc0000d05 0x00000024 0x00000000
19 2: 0xc0000d06 0x0000002c 0x00000000

```

If use per-section compilation while insert funcB (from library libtst.a) get full tst.o from library. Objects funcA and abcd duplicate already available in kernel.

I do not know as it to correct and remove excess symbols and objects.

Author: Trac Migrate 2016-02-05T06:27:34.000Z

Original author: SergKruglov

for build rap file use switches **-rap-strip** and **-one-file**

Author: Joel Sherrill 2016-02-05T13:42:43.000Z

Original author: SergKruglov

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Chris... is this documented? Where can the instructions go about per function sections and these arguments?

Seems like the ticket is resolved except making sure no one treads this path again.

Author: Chris Johns 2016-02-16T23:22:37.000Z

Original author: SergKruglov

I wonder why those options are needed. We should really look into this.

There is documentation in the linkers dorectory in rtems-tools.git but this should all be moved into the docs projects.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

Original author: SergKruglov

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: SergKruglov

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Joel Sherrill 2018-10-13T22:47:38.000Z

Original author: SergKruglov

- **Milestone** changed from %"5.1" to %"5.2"

Author: Chris Johns 2022-11-09T23:05:20.000Z

Original author: SergKruglov

- **Description** changed

```

1 If rtems libraries and image build with per-section compilation flags.
  ↳ rap files (maybe and other) build with duplicate symbols(objects).
2 Gnu ld with flag -gc-sections remove unnessary symbols(objects)? but.
  ↳ rtems-ld this does.
3 I wrote small sample with 3 projects:
4 a) static lib libtst.a with one file tst.c
5 tst.c
6 -
7 + {{{
8 int abcd=5;
9 void funcA(void)
10 {
11 abcd=7;
12 }
13 void funcB(void)
14 {
15 }
16 + }}}
17 b) any rtems project (minimal or any) linked with this lib and in Init.
  ↳ call function from lib
18 -
19 + {{{
20 extern void funcA(void);
21 extern int abcd;
22 rtems_task Init(rtems_task_argument argument) {
23 funcA();
24 abcd = 9;
25 rtems_task_delete(RTEMS_SELF);
26 }
27 + }}}
28 c) rap file project with core image from b) and library from a)
29 test.c
30 -
31 + {{{
32 extern void funcB(void);
33 void rtems(void)
34 {

```

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```

35 funcB();
36 }
37 -
38 + }}}
39 After generate map files with rtems-rap -sSr
40
41 Map file without per-section compilation
42 testrap.rap:
43 + {{{
44 Strings: 0x00000074 (116) size: 14
45 0 (0x000000):
46 1 (0x000001): rtems
47 2 (0x000007): rtems
48 3 (0x00000d):
49 Symbols: 0x00000082 (130) size: 12
50 data section value      name
51 0: 0x0012      .text 0x00000000 rtems
52 Relocations: 0x0000008e (142)
53 .text: info      offset      addend      symbol name
54 0: 0x80000504 0x00000008 0x00000000 funcB
55 -
56 + }}}
57 Map file with per-section compilation
58 testrap.rap:
59 + {{{
60 Strings: 0x00000090 (144) size: 31
61 0 (0x000000):
62 1 (0x000001): rtems
63 2 (0x000007): funcA
64 3 (0x00000d): abcd
65 4 (0x000012): funcB
66 5 (0x000018): rtems
67 6 (0x00001e):
68 Symbols: 0x000000af (175) size: 48
69 data section value      name
70 0: 0x0012      .text 0x00000000 rtems
71 1: 0x0012      .text 0x00000000 funcA
72 2: 0x0011      .data 0x00000000 abcd
73 3: 0x0012      .text 0x00000000 funcB
74 Relocations: 0x000000df (223)
75 .text: info      offset      addend      symbol name
76 0: 0xc0001204 0x00000008 0x00000000
77 1: 0xc0000d05 0x00000024 0x00000000
78 2: 0xc0000d06 0x0000002c 0x00000000
79 -
80 + }}}
81 - If use per-section compilation while insert funcB (from library_
  ↪ libtst.a) get full tst.o from library.
82 ?

```

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```

83
84 + If use per-section compilation while insert funcB (from library_
85 ↳libtst.a) get full tst.o from library.
86 +
87 Objects funcA and abcd duplicate already available in kernel.
88 I do not know as it to correct and remove excess symbols and objects.

```

- **Milestone** changed from %"5.2" to %"Indefinite"
- **Version** changed from ~"5" to ~"7"

Needs funding

Author: Amar Takhar 2025-09-05T02:57:37.104Z

changed the description

1.5.1.39 2540 - RSB has problems building into existing directory (opened)

Id	2540
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-01-22T17:57:26.000Z
Updated	2025-09-19T01:46:10.542Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2540
Merges	0

Original author: williamssimonp

Attempting to build the ARM/4.12 BSet using RSB on Fedora 23 X86_64. The RSB repository clone was up to date (22/01/2016). I had previously built the same BSet from the repository up to date as of 09/01/2016. When building newlib, I got the following:

```

1 Running configure in multilib subdir thumb/cortex-m7/fpv5-d16/hard
2 pwd: /home/simon.williams/rtems/rtems-source-builder/rtems/build/arm-rtems4.12-
3 ↳gcc-6-20160117-newlib-2.3.0.20160104-x86_64-linux-gnu-1/build/arm-rtems4.12
4 mkdir thumb/cortex-m7
5 mkdir thumb/cortex-m7/fpv5-d16
6 mkdir thumb/cortex-m7/fpv5-d16/hard
7 configure: creating cache ./config.cache
8 checking build system type... x86_64-pc-linux-gnu
checking host system type... arm-unknown-rtems4.12

```

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```

9 checking for --enable-version-specific-runtime-libs... yes
10 checking for a BSD-compatible install... /usr/bin/install -c
11 checking for gawk... gawk
12 checking for arm-rtems4.12-ar... /home/simon.williams/rtems/4.12/arm-rtems4.12/
   ↪ bin/ar
13 checking for arm-rtems4.12-lipo... arm-rtems4.12-lipo
14 checking for arm-rtems4.12-nm... /home/simon.williams/rtems/rtems-source-builder/
   ↪ rtems/build/arm-rtems4.12-gcc-6-20160117-newlib-2.3.0.20160104-x86_64-linux-gnu-
   ↪ 1/build/./gcc/nm
15 checking for arm-rtems4.12-ranlib... /home/simon.williams/rtems/4.12/arm-rtems4.
   ↪ 12/bin/ranlib
16 checking for arm-rtems4.12-strip... /home/simon.williams/rtems/4.12/arm-rtems4.12/
   ↪ bin/strip
17 checking whether ln -s works... yes
18 checking for arm-rtems4.12-gcc... /home/simon.williams/rtems/rtems-source-builder/
   ↪ rtems/build/arm-rtems4.12-gcc-6-20160117-newlib-2.3.0.20160104-x86_64-linux-gnu-
   ↪ 1/build/./gcc/xgcc -B/home/simon.williams/rtems/rtems-source-builder/rtems/
   ↪ build/arm-rtems4.12-gcc-6-20160117-newlib-2.3.0.20160104-x86_64-linux-gnu-1/
   ↪ build/./gcc/ -nostdinc -B/home/simon.williams/rtems/rtems-source-builder/rtems/
   ↪ build/arm-rtems4.12-gcc-6-20160117-newlib-2.3.0.20160104-x86_64-linux-gnu-1/
   ↪ build/arm-rtems4.12/thumb/cortex-m7/fpv5-d16/hard/newlib/ -isystem /home/simon.
   ↪ williams/rtems/rtems-source-builder/rtems/build/arm-rtems4.12-gcc-6-20160117-
   ↪ newlib-2.3.0.20160104-x86_64-linux-gnu-1/build/arm-rtems4.12/thumb/cortex-m7/
   ↪ fpv5-d16/hard/newlib/targ-include -isystem /home/simon.williams/rtems/rtems-
   ↪ source-builder/rtems/build/arm-rtems4.12-gcc-6-20160117-newlib-2.3.0.20160104-
   ↪ x86_64-linux-gnu-1/gcc-6-20160117/newlib/libc/include -B/home/simon.williams/
   ↪ rtems/4.12/arm-rtems4.12/bin/ -B/home/simon.williams/rtems/4.12/arm-rtems4.12/
   ↪ lib/ -isystem /home/simon.williams/rtems/4.12/arm-rtems4.12/include -isystem /
   ↪ home/simon.williams/rtems/4.12/arm-rtems4.12/sys-include -mthumb -mcpu=cortex-
   ↪ m7 -mfpv5-d16 -mfloat-abi=hard
19 configure: error: in `/home/simon.williams/rtems/rtems-source-builder/rtems/build/
   ↪ arm-rtems4.12-gcc-6-20160117-newlib-2.3.0.20160104-x86_64-linux-gnu-1/build/arm-
   ↪ rtems4.12/thumb/cortex-m7/fpv5-d16/hard/libgcc':
20 configure: error: cannot compute suffix of object files: cannot compile
21 See `config.log' for more details.
22 make[1]: *** [configure-target-libgcc] Error 1

```

Sebastian commented that the binutils being used was out of date and I noticed that it was picking up the binutils from my previous build. I removed the previous build from my PATH, but got the same issue. I examined the logs and discovered that RSB was adding the installation bin directory to the PATH while executing. I renamed the original \$PREFIX so that it was no longer building into an existing directory and the build ran successfully.

It appears that RSB will not build newlib successfully if it is installing into the same location as a previous build that does not contain compatible tools.

Author: Trac Migrate 2017-01-26T07:16:00.000Z

Original author: williamssimonp

- **Milestone** changed from %"4.11.1" to %"4.11.2"

Author: Trac Migrate 2017-02-15T13:37:51.000Z

Original author: williamssimonp

- **Milestone** changed from %"4.11.2" to %"Indefinite"
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-10-05T07:54:29.000Z

Original author: williamssimonp

The RSB output currently looks like this

```

1 RTEMS Source Builder - Set Builder, 4.12 (1f3f21ed306b)
2 warning: exe: absolute exe found in path: (__chown) /usr/sbin/chown
3 Build Set: 4.12/rtems-all
4 Build Set: 4.12/rtems-arm.bset
5 Build Set: 4.12/rtems-autotools.bset
6 Build Set: 4.12/rtems-autotools-internal.bset
7 config: tools/rtems-autoconf-2.69-1.cfg
8 package: autoconf-2.69-x86_64-linux-gnu-1
9 building: autoconf-2.69-x86_64-linux-gnu-1
10 config: tools/rtems-automake-1.12.6-1.cfg
11 package: automake-1.12.6-x86_64-linux-gnu-1
12 building: automake-1.12.6-x86_64-linux-gnu-1
13 cleaning: autoconf-2.69-x86_64-linux-gnu-1
14 cleaning: automake-1.12.6-x86_64-linux-gnu-1
15 Build Set: Time 0:00:06.855472
16 Build Set: 4.12/rtems-autotools-base.bset
17 config: tools/rtems-autoconf-2.69-1.cfg
18 package: autoconf-2.69-x86_64-linux-gnu-1
19 building: autoconf-2.69-x86_64-linux-gnu-1
20 reporting: tools/rtems-autoconf-2.69-1.cfg -> autoconf-2.69-x86_64-
↳ linux-gnu-1.txt
21 reporting: tools/rtems-autoconf-2.69-1.cfg -> autoconf-2.69-x86_64-
↳ linux-gnu-1.xml
22 config: tools/rtems-automake-1.12.6-1.cfg
23 package: automake-1.12.6-x86_64-linux-gnu-1
24 building: automake-1.12.6-x86_64-linux-gnu-1
25 reporting: tools/rtems-automake-1.12.6-1.cfg -> automake-1.12.6-x86_64-
↳ linux-gnu-1.txt
26 reporting: tools/rtems-automake-1.12.6-1.cfg -> automake-1.12.6-x86_64-
↳ linux-gnu-1.xml
27 installing: autoconf-2.69-x86_64-linux-gnu-1 -> /build/rtems-4.12
28 installing: automake-1.12.6-x86_64-linux-gnu-1 -> /build/rtems-4.12
29 cleaning: autoconf-2.69-x86_64-linux-gnu-1

```

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```

30 cleaning: automake-1.12.6-x86_64-linux-gnu-1
31 Build Set: Time 0:00:09.739262
32 Build Set: Time 0:00:16.598011
33 config: devel/expat-2.1.0-1.cfg
34 package: expat-2.1.0-x86_64-linux-gnu-1
35 building: expat-2.1.0-x86_64-linux-gnu-1
36 reporting: devel/expat-2.1.0-1.cfg -> expat-2.1.0-x86_64-linux-gnu-1.txt
37 reporting: devel/expat-2.1.0-1.cfg -> expat-2.1.0-x86_64-linux-gnu-1.xml
38 config: tools/rtems-binutils-2.29-1.cfg
39 package: arm-rtems4.12-binutils-2.29-x86_64-linux-gnu-1
40 building: arm-rtems4.12-binutils-2.29-x86_64-linux-gnu-1
41 reporting: tools/rtems-binutils-2.29-1.cfg -> arm-rtems4.12-binutils-2.
  ↪ 29-x86_64-linux-gnu-1.txt
42 reporting: tools/rtems-binutils-2.29-1.cfg -> arm-rtems4.12-binutils-2.
  ↪ 29-x86_64-linux-gnu-1.xml
43 config: tools/rtems-gcc-7.2.0-newlib-2.5.0.20170922-1.cfg
44 package: arm-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170922-x86_64-linux-gnu-
  ↪ 1
45 building: arm-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170922-x86_64-linux-
  ↪ gnu-1
46 reporting: tools/rtems-gcc-7.2.0-newlib-2.5.0.20170922-1.cfg -> arm-
  ↪ rtems4.12-gcc-7.2.0-newlib-2.5.0.20170922-x86_64-linux-gnu-1.txt
47 reporting: tools/rtems-gcc-7.2.0-newlib-2.5.0.20170922-1.cfg -> arm-
  ↪ rtems4.12-gcc-7.2.0-newlib-2.5.0.20170922-x86_64-linux-gnu-1.xml
48 config: tools/rtems-gdb-8.0.1-1.cfg
49 package: arm-rtems4.12-gdb-8.0.1-x86_64-linux-gnu-1
50 building: arm-rtems4.12-gdb-8.0.1-x86_64-linux-gnu-1
51 reporting: tools/rtems-gdb-8.0.1-1.cfg -> arm-rtems4.12-gdb-8.0.1-x86_
  ↪ 64-linux-gnu-1.txt
52 reporting: tools/rtems-gdb-8.0.1-1.cfg -> arm-rtems4.12-gdb-8.0.1-x86_
  ↪ 64-linux-gnu-1.xml
53 config: tools/rtems-tools-4.12-1.cfg
54 package: rtems-tools-HEAD-1
55 git: reset: git://git.rtems.org/rtems-tools.git
56 git: fetch: git://git.rtems.org/rtems-tools.git -> sources/git/rtems-
  ↪ tools.git
57 git: checkout: git://git.rtems.org/rtems-tools.git => HEAD
58 git: pull: git://git.rtems.org/rtems-tools.git
59 building: rtems-tools-HEAD-1
60 reporting: tools/rtems-tools-4.12-1.cfg -> rtems-tools-HEAD-1.txt
61 reporting: tools/rtems-tools-4.12-1.cfg -> rtems-tools-HEAD-1.xml
62 config: tools/rtems-kernel-4.12.cfg
63 package: arm-rtems4.12-kernel-4.12-1
64 building: arm-rtems4.12-kernel-4.12-1
65 reporting: tools/rtems-kernel-4.12.cfg -> arm-rtems4.12-kernel-4.12-1.
  ↪ txt
66 reporting: tools/rtems-kernel-4.12.cfg -> arm-rtems4.12-kernel-4.12-1.
  ↪ xml
67 installing: expat-2.1.0-x86_64-linux-gnu-1 -> /build/rtems-4.12

```

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```

68 installing: arm-rtems4.12-binutils-2.29-x86_64-linux-gnu-1 -> /build/
   ↪ rtems-4.12
69 installing: arm-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170922-x86_64-linux-
   ↪ gnu-1 -> /build/rtems-4.12
70 installing: arm-rtems4.12-gdb-8.0.1-x86_64-linux-gnu-1 -> /build/rtems-
   ↪ 4.12
71 installing: rtems-tools-HEAD-1 -> /build/rtems-4.12
72 installing: arm-rtems4.12-kernel-4.12-1 -> /build/rtems-4.12
73 cleaning: expat-2.1.0-x86_64-linux-gnu-1
74 cleaning: arm-rtems4.12-binutils-2.29-x86_64-linux-gnu-1
75 cleaning: arm-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170922-x86_64-linux-
   ↪ gnu-1
76 cleaning: arm-rtems4.12-gdb-8.0.1-x86_64-linux-gnu-1
77 cleaning: rtems-tools-HEAD-1
78 cleaning: arm-rtems4.12-kernel-4.12-1
79 Build Set: Time 0:34:45.297368

```

The autotools are installed before the other stuff which is installed in one big chunk. Maybe this sequence should be changed to install each component as soon as possible, e.g. Binutils before GCC.

Author: Chris Johns 2017-10-05T22:13:58.000Z

Original author: williamssimonp

Replying to [Sebastian Huber](#):

The autotools are installed before the other stuff which is installed in one big chunk.

The autotools should be installed to an internally path to be available for the build if required and installed at the end when the build finishes. It is a tricky dependence issue that has been in the RSB from its early days.

Maybe this sequence should be changed to install each component as soon as possible, e.g. Binutils before GCC.

This is dangerous and it should never happen. I will not be supporting any change to do this.

An RSB buildset build must be viewed as a single transaction that must succeed to ensure we are able to say the build installed meets the configuration management requirements. We need to know what we have described in the build is install. If the build fails in any way no part should be installed.

If you are installing over an existing installation you could end up with a hybrid of unknown versions which are not configuration controlled. They may appear to work and subtly fail and that is dangerous or the failures maybe major such as code not building and we would need to field those report and figure out what is wrong and that is an overhead I would not like the project to have.

The RSB provides the `sb-build` command that lets you step down from the build sets to control specific parts. It is more complicated and may not work given some the way the build sets have developed over the last 5 or so years.

In respect to this ticket I wonder if the user's path has the install prefix's `bin` directory in it and this is effecting the packaging being built by referencing the already installed tools.

Author: Trac Migrate 2017-10-06T05:10:30.000Z

Original author: williamssimonp

Ok, now the intention is clear to me, however, the GCC build system adds the prefix to the search paths via:

```
1 -B/${prefix}/${target}/bin/ -B/${prefix}/${target}/lib/ -isystem /$
  ↪ ${prefix}/${target}/include -isystem /${prefix}/${target}/sys-include
```

From my point of view this is a GCC build system bug. I always delete the prefix before I build anything with RSB.

Author: Chris Johns 2017-10-06T05:31:41.000Z

Original author: williamssimonp

Replying to [Sebastian Huber](#):

Ok, now the intention is clear to me, however, the GCC build system adds the prefix to the search paths via: `{{{ -B/${prefix}/${target}/bin/ -B/${prefix}/${target}/lib/ -isystem /${prefix}/${target}/include -isystem /${prefix}/${target}/sys-include }}}}` From my point of view this is a GCC build system bug.

Yes, gcc doing this is not helpful.

I always delete the prefix before I build anything with RSB.

I do from time to time but no always and I suppose I do not see any issues because I incrementally bump the tool versions while a jump could have real issues.

This is tricky to resolve within the RSB. For example if the RSB removed the `${PREFIX}` with each build automatically you would not be able to build RTEMS 3rd party libraries with the same prefix you built the tools with because the tools would have been deleted.

Author: Trac Migrate 2018-11-13T06:12:51.000Z

Original author: williamssimonp

Maybe the RSB should warn that there are already tools installed in the prefix and offer an option to remove them.

For example building the latest or1k tool chain failed since I had the previous tools installed in \$prefix. During GCC build the Binutils of \$prefix are used and not the ones which are newly built.

Author: Chris Johns 2018-11-13T06:44:00.000Z

Original author: williamssimonp

Replying to [Sebastian Huber](#):

Maybe the RSB should warn that there are already tools installed in the prefix and offer an option to remove them.

A prefix can be a shared resource used by a number of packages so what are you asking is removed?

The RSB has no concept or knowledge of what the package actually installs so how would it be able to remove these specific parts. This is what distro packaging systems do.

For example building the latest or1k tool chain failed since I had the previous tools installed in \$prefix. During GCC build the Binutils of \$prefix are used and not the ones which are newly built.

All I can suggest is you wrap the RSB in the distro system of your choice and deploy the tools that way if you want to track specific files in packages.

I think the real issue is not this but the build. The RSB build of the RTEMS tools should be looking to use the binutils just built however for some reason gcc must be looking in the \$prefix before the \$PATH and when the \$prefix is empty it uses the binutils in the \$PATH, after all this is what happens when there are no tools installed. Does an option exist in gcc to control this order?

Author: Trac Migrate 2018-11-13T06:54:51.000Z

Original author: williamssimonp

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

Maybe the RSB should warn that there are already tools installed in the prefix and offer an option to remove them.

A prefix can be a shared resource used by a number of packages so what are you asking is removed?

What I did is this:

```
find /build/rtems/5/ -name 'or1k' | xargs rm -r
```

Yes, a bit dangerous. Maybe if a find \$prefix -name "\$target" finds something, then we can stop the build. The user has then the choice to remove it on its own or use a `-force-build-with-existing-tools` option.

The RSB has no concept or knowledge of what the package actually installs so how would it be able to remove these specific parts. This is what distro packaging systems do.

For example building the latest or1k tool chain failed since I had the previous tools installed in \$prefix. During GCC build the Binutils of \$prefix are used and not the ones which are newly built.

All I can suggest is you wrap the RSB in the distro system of your choice and deploy the tools that way if you want to track specific files in packages. I think the real issue is not this but the build. The RSB build of the RTEMS tools should be looking to use the binutils just built however for some reason gcc must be looking in the \$prefix before the \$PATH and when the \$prefix is empty it uses the binutils in the \$PATH, after all this is what happens when there are no tools installed. Does an option exist in gcc to control this order?

I am not sure if this can be fixed by changes in \$PATH. In the GCC build tree there is for example an “as” script which is generated:

```

1 grep -r ORIGINAL_AS_FOR_TARGET
2 gcc/Makefile.in:ORIGINAL_AS_FOR_TARGET = @ORIGINAL_AS_
  ↳FOR_TARGET@
3 gcc/configure.ac:ORIGINAL_AS_FOR_TARGET=$gcc_cv_as
4 gcc/configure.ac:AC_SUBST(ORIGINAL_AS_FOR_TARGET)
5 gcc/configure.ac:case "$ORIGINAL_AS_FOR_TARGET" in
6 gcc/exec-tool.in:ORIGINAL_AS_FOR_TARGET="@ORIGINAL_AS_
  ↳FOR_TARGET@"
7 gcc/exec-tool.in:    original=$ORIGINAL_AS_FOR_TARGET
8 gcc/ChangeLog-2005:    * Makefile.in (stamp-as): Use
  ↳$(ORIGINAL_AS_FOR_TARGET)
9 gcc/ChangeLog-2005:    (ORIGINAL_AS_FOR_TARGET, _
  ↳ORIGINAL_LD_FOR_TARGET,
10 gcc/configure:ORIGINAL_AS_FOR_TARGET
11 gcc/configure:ORIGINAL_AS_FOR_TARGET=$gcc_cv_as
12 gcc/configure:case "$ORIGINAL_AS_FOR_TARGET" in

```

It uses absolute paths found during configure time (I guess).

Author: Chris Johns 2018-11-14T07:01:36.000Z

Original author: williamssimonp

Replying to [Sebastian Huber](#):

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

Maybe the RSB should warn that there are already tools installed in the prefix and offer an option to remove them.

A prefix can be a shared resource used by a number of packages so what are you asking is removed?

What I did is this: `find /build/rtems/5/ -name 'or1k' | xargs rm -r` Yes, a bit dangerous. Maybe if a `find $prefix -name "$target"` finds something, then we can stop the build. The user has then the choice to remove it on its own or use a `--force-build-with-existing-tools` option.

It is dangerous. An example of the problems this exposes is the lack of an undo, a user attempts a build which fails and the previous working installed tools have been removed. I then get requests to not do this.

I think the real issue is not this but the build. The RSB build of the RTEMS tools should be looking to use the binutils just built however for some reason gcc must be looking in the `$prefix` before the `$PATH` and when the `$prefix` is empty it uses the binutils in the `$PATH`, after all this is what happens when there are no tools installed. Does an option exist in gcc to control this order?

I am not sure if this can be fixed by changes in `$PATH`. In the GCC build tree there is for example an "as" script which is generated: `{{{ grep -r ORIGINAL_AS_FOR_TARGET gcc/Makefile.in:ORIGINAL_AS_FOR_TARGET`
`=`
`@ORIGINAL_AS_FOR_TARGET@`
`gcc/configure.ac:ORIGINAL_AS_FOR_TARGET=$gcc_cv_as`
`gcc/configure.ac:AC_SUBST(ORIGINAL_AS_FOR_TARGET)`
`gcc/configure.ac:case "$ORIGINAL_AS_FOR_TARGET" in`
`gcc/exec-tool.in:ORIGINAL_AS_FOR_TARGET="@ORIGINAL_AS_FOR_TARGET@"`
`gcc/exec-tool.in: original=$ORIGINAL_AS_FOR_TARGET`
`gcc/ChangeLog-2005: * Makefile.in (stamp-as): Use $(ORIGINAL_AS_FOR_TARGET) gcc/ChangeLog-2005: (ORIGINAL_AS_FOR_TARGET, ORIGINAL_LD_FOR_TARGET,`
`gcc/configure:ORIGINAL_AS_FOR_TARGET`
`gcc/configure:ORIGINAL_AS_FOR_TARGET=$gcc_cv_as`
`gcc/configure:case "$ORIGINAL_AS_FOR_TARGET" in }}}`
 It uses absolute paths found during configure time (I guess).

I think binutils is relocatable so I wonder if the pre-installed tools that have been built and waiting for the whole package to finish building can be used. Does `--with-as` take a path to an executable?

Author: Trac Migrate 2018-11-14T07:46:18.000Z

Original author: [williamssimonp](#)

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

Maybe the RSB should warn that there are already tools installed in the prefix and offer an option to remove them.

A prefix can be a shared resource used by a number of packages so what are you asking is removed?

What I did is this: `find /build/rtems/5/ -name 'or1k' | xargs rm -r` Yes, a bit dangerous. Maybe if a `find $prefix -name "$target"` finds something, then we can stop the build. The user has then the choice to remove it on its own or use a `--force-build-with-existing-tools` option.

It is dangerous. An example of the problems this exposes is the lack of an undo, a user attempts a build which fails and the previous working installed tools have been removed. I then get requests to not do this.

I think the real issue is not this but the build. The RSB build of the RTEMS tools should be looking to use the binutils just built however for some reason gcc must be looking in the `$prefix` before the `$PATH` and when the `$prefix` is empty it uses the binutils in the `$PATH`, after all this is what happens when there are no tools installed. Does an option exist in gcc to control this order?

I am not sure if this can be fixed by changes in `$PATH`. In the GCC build tree there is for example an "as" script which is generated: `{{{ grep -r ORIGINAL_AS_FOR_TARGET gcc/Makefile.in:ORIGINAL_AS_FOR_TARGET`
`=`
`@ORIGINAL_AS_FOR_TARGET@`
`gcc/configure.ac:ORIGINAL_AS_FOR_TARGET=$gcc_cv_as`
`gcc/configure.ac:AC_SUBST(ORIGINAL_AS_FOR_TARGET)`
`gcc/configure.ac:case "$ORIGINAL_AS_FOR_TARGET" in`
`gcc/exec-tool.in:ORIGINAL_AS_FOR_TARGET="@ORIGINAL_AS_FOR_TARGET@"`
`gcc/exec-tool.in: original=$ORIGINAL_AS_FOR_TARGET`
`gcc/ChangeLog-2005: * Makefile.in (stamp-as): Use $(ORIGINAL_AS_FOR_TARGET) gcc/ChangeLog-2005: (ORIGINAL_AS_FOR_TARGET, ORIGINAL_LD_FOR_TARGET,`
`gcc/configure:ORIGINAL_AS_FOR_TARGET`
`gcc/configure:ORIGINAL_AS_FOR_TARGET=$gcc_cv_as`
`gcc/configure:case "$ORIGINAL_AS_FOR_TARGET" in }}}`
 It uses absolute paths found during configure time (I guess).

I think binutils is relocatable so I wonder if the pre-installed tools that have been built and waiting for the whole package to finish building can be used. Does `--with-as` take a path to an executable?

I have absolutely no confidence in the GCC build system. I am not sure if this will ever work reliably. I would

1. try to detect that an installation exists in the prefix,
2. stop building if an installation exists unless a special option is given.

Author: Trac Migrate 2018-11-14T07:47:37.000Z

Original author: williamssimonp

The Ada build has also a problem if there already exists an installation. The install procedure aborts with a file permission error.

Author: Chris Johns 2018-11-15T00:45:51.000Z

Original author: williamssimonp

Replying to [Sebastian Huber](#):

I have absolutely no confidence in the GCC build system.

I do not know gcc's build system enough to comment. It is a bit of a beast.

I am not sure if this will ever work reliably.

I see value in what you are asking and it raises the important broader question of "What a \$prefix tree of RTEMS tools means?". We currently assume a release \$prefix is a single release however there are **no** checks made. You are in fact asking we create a new policy that the RSB has avoided until now. Such a policy will exist for ever so I think it would be good to flesh out what it is and what it means.

I would 1. try to detect that an installation exists in the prefix,

Does this mean we can update a single variant of a package in the \$prefix and not the other variants? Do we allow a user to have an arch of one build and another arch on a different build?

Is the detect test per package or common to all packages? If common to all packages, ie in the RSB's python, how would you implement it? I think a common test is too hard.

A per-package test could be implemented with a worker script called from the config script using \$(). I did this in the gdb config to find the Python header and library before building gdb. The issue here is implementing the test in each step that matters in a package's build, ie the binutils and gcc for tool sets.

GCC has the RSB hash embedded in it and can be found with:

```
1 $prefix/arm-rtems5-gcc --version | awk ' /\.*-gcc/
   ↪ { print substr($8, 1, length($8) - 1); }'
2 30da0c720b78eba16a3f5272206c07415368617b
```

Can an RSB hash be added to the GNU as and ld version string? I think this would be needed to make adding any test worthwhile.

2. stop building if an installation exists unless a special option is given..

I am not a fan of adding extra options. I do not see a need at this point in time. I feel removing installed files or attempting to automatically clean up is a complex hole we should avoid. We could just document what users need to do if they see warnings or errors.

How would you build more than one variant of a packages, ie different arch tool sets? This feeds back to the per-package vs all packages testing of installed packages.

Do we stop for all build types or just release builds? We have two contexts, a development context where we are working with different tool sets and sometimes in different configurations and then we have the release context. Maybe in the development context a warning is printed and in the release context an error is produced.

Author: Trac Migrate 2018-11-15T10:20:51.000Z

Original author: williamssimonp

I don't have a solution for this problem. Normally I just delete the prefix before I start the RSB. While testing the new or1k tool chain I forgot to do this and got a GCC build error. Even though I know that the RSB build is broken with an existing installation in the prefix I didn't think about this and assumed that the new upstream or1k support in GCC is broken.

Author: Chris Johns 2018-11-17T01:20:21.000Z

Original author: williamssimonp

Replying to [Sebastian Huber](#):

I don't have a solution for this problem.

I did outline one :)

Normally I just delete the prefix before I start the RSB. While testing the new or1k tool chain I forgot to do this and got a GCC build error.

Even though I know that the RSB build is broken with an existing installation in the prefix

The RSB is not broken, it is doing what it is suppose to do. It is the package that is being built that is broken or it is the configuration in the RSB that could be improved. Adding shell call-outs using `$()` to check the installed version to the gcc tool set scripts would work but we need an RSB signature in `as` and `ld`.

I didn't think about this and assumed that the new upstream or1k support in GCC is broken.

Then please raise this with gcc or fix it's build so we can control where it looks for as. It is a weakness with gcc's build we cannot control the as used.

Adding an RSB signature to as and ld is something that should happen.

Author: Trac Migrate 2018-11-17T18:23:46.000Z

Original author: williamssimonp

It is not just the Binutils that make problems. There are at least five issues in case a tool chain is already present.

1. The build uses the existing Binutils instead of the ones built right now.
2. Some header and other files of the existing installation may be used instead of the one from the current sources.
3. The installation adds only files, it does not remove obsolete files leaving a mixture of old and new files in the prefix.
4. The Ada installation stops with permission errors.
5. In case something goes wrong it is not easy to figure out that the reason is an existing installation that interfered.

Author: Chris Johns 2018-11-18T21:34:55.000Z

Original author: williamssimonp

Replying to [Sebastian Huber](#):

It is not just the Binutils that make problems. There are at least five issues in case a tool chain is already present. 1. The build uses the existing Binutils instead of the ones built right now.

If I used the same prefix as an bare metal ELF tool chain could gcc pick up that assembler?

Do we need more or better documentation on the \$prefix in the User manual?

2. Some header and other files of the existing installation may be used instead of the one from the current sources.

Why is gcc doing this? It seems wrong and dangerous.

3. The installation adds only files, it does not remove obsolete files leaving a mixture of old and new files in the prefix.

The binutils and gcc do just this as well. The RSB is not a packaging or deployment tool. That is a role I see existing

outside of the RTEMS project where specialisation and support can happen.

4. The Ada installation stops with permission errors.

I thought this was in the Ada build when run from python?

5. In case something goes wrong it is not easy to figure out that the reason is an existing installation that interfered.

Agreed, but why is it the role of the RSB tool (not the configuration parts) to deal with this?

I have offered a solution and I am willing to review patches.

Author: Trac Migrate 2018-11-19T06:13:51.000Z

Original author: williamssimonp

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

It is not just the Binutils that make problems. There are at least five issues in case a tool chain is already present. 1. The build uses the existing Binutils instead of the ones built right now.

If I used the same prefix as an bare metal ELF tool chain could gcc pick up that assembler?

I don't know.

Do we need more or better documentation on the \$prefix in the User manual?

Yes, I didn't find a hint that an existing installation may interfere with the current build.

2. Some header and other files of the existing installation may be used instead of the one from the current sources.

Why is gcc doing this? It seems wrong and dangerous.

<https://devel.rtems.org/ticket/2540#comment:5>

3. The installation adds only files, it does not remove obsolete files leaving a mixture of old and new files in the prefix.

The binutils and gcc do just this as well. The RSB is not a packaging or deployment tool. That is a role I see existing outside of the RTEMS project where specialisation and support can happen.

I think this should be clarified in the documentation.

4. The Ada installation stops with permission errors.

I thought this was in the Ada build when run from python?

As far as I remember it was an issue in the Python copytree area.

5. In case something goes wrong it is not easy to figure out that the reason is an existing installation that interfered.

Agreed, but why is it the role of the RSB tool (not the configuration parts) to deal with this? I have offered a solution and I am willing to review patches.

I think your proposal is fine. I just wanted to highlight that there are multiple problems if you have an existing installation.

Author: Amar Takhar 2025-09-05T03:00:57.890Z

changed the description

1.5.1.40 2506 - RTEMS Linker and Tester Wiki Confusion (opened)

Id	2506
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2016-01-01T17:43:46.000Z
Updated	2025-09-19T01:46:10.423Z
Milestone	5.4
Labels	doc, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2506
Merges	0

<https://devel.rtems.org/wiki/Developer/Tools> has two links in the first bullet list which do not go to pages.

- RTEMS Linker
- RTEMS Tester

RTEMS Trace Linker has a write up at https://devel.rtems.org/wiki/Developer/Tracing/Trace_Linkers but in a couple of places uses the phrase “RTEMS Linker.”

I think the references to RTEMS Linker on the RTEMS Trace Linker page are incorrect but you need to judge.

Is there a page for the RTEMS Linker as used for dynamic loading?

Is there a page for the RTEMS Tester so the link can be fixed?

If nothing else, I think you have some notes that could be inserted into starting points on the pages.

Author: Chris Johns 2016-01-03T23:09:10.000Z

The missing links need pages added. We need to review and update the existing content if present and either move it to a suitable spot in the new wiki's tree and update if needed or provide a new page.

I would rather need pages added or moves and updated than linking to some of the existing pages. Having out of date or invalid pages can be worse than nothing at all.

Author: Gedare Bloom 2016-01-04T02:06:02.000Z

You can make this a GCI task if you want, either to follow through on this ticket, or create a few discrete tasks related to the specific pages you want dealt with.

Author: Chris Johns 2016-01-04T02:17:14.000Z

As you point out the trace linker is referenced under tracing. I think we need a page under the tools project about the tool and development of it. I am not sure how to create a suitable GCI task for this.

I am not sure the RTEMS linker is a suitable GCI topic, it is a complex topic. It will take me a while to figure out the details.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

Author: Chris Johns 2017-10-11T23:31:26.000Z

- **Milestone** changed from %”4.12.0” to %”Indefinite”

I have added pages in the wiki pointing to the RTEMS User Guide however the RTEMS Linker is not documented in the User Guide yet. I am not sure when I can get to this and it should not hold a release up.

Author: Amar Takhar 2025-09-05T03:00:57.390Z

changed the description

1.5.1.41 2492 - Delete <https://devel.rtems.org/wiki/TBR/Delete/Documentation> ? (opened)

Id	2492
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2015-12-13T23:04:03.000Z
Updated	2025-09-19T01:46:10.323Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2492
Merges	0

Original author: heshamelmatary

The following is Tangem's suggestion from GCI.

"The cpukit doxygen link and the 3 links at the top in the release manuals are broken. The other manuals state a outdated OAR copyright and I'm not sure whether those should or can be changed. Deleting the page and replacing the link on the main page with this [1] or this [2] might be a good idea."

As Chris suggested, getting a new HTML page here [3] would be great.

[1] <https://docs.rtems.org/> [2] <https://www.rtems.org/onlinedocs.htm> [3] <https://docs.rtems.org/>

Author: Trac Migrate 2017-02-15T14:20:42.000Z

Original author: heshamelmatary

- **Milestone** changed from %"4.12" to %"Indefinite"
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:02:25.258Z

changed the description

1.5.1.42 2463 - rtems-syms assumes that 4.11 tools are installed (opened)

Id	2463
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2015-11-10T08:23:30.000Z
Updated	2025-09-19T01:46:10.206Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2463
Merges	0

Original author: sebastian.huber

For example:

```

1 gmake[7]: Entering directory `/scratch/git-rtems-testing/rtems/build-arm-realview_
  ↳ pbx_a9_qemu-rtems/arm-rtems4.12/c/realview_pbx_a9_qemu/testsuites/libtests/dl01'
2 arm-rtems4.12-gcc -B../.../realview_pbx_a9_qemu/lib/ -specs bsp_specs -
  ↳ qrtems -march=armv7-a -mthumb -mfp=neon -mfloat-abi=hard -mtune=cortex-a9 -O0 -
  ↳ g -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-
  ↳ prototypes -Wnested-externs -march=armv7-a -mthumb -mfp=neon -mfloat-
  ↳ abi=hard -mtune=cortex-a9 -o dl01.pre.exe init.o dl-load.o dl-tar.o
3 arm-rtems4.12-nm -g -n dl01.pre.exe > dl01.pre.num
4 arm-rtems4.12-size dl01.pre.exe
5 text    data    bss    dec    hex filename
6 233464   1820 267135168      267370452      febfcd4 dl01.pre.exe
7 cp dl01.pre.exe dl01.pre.ralf
8 rm -f dl01.pre.ralf
9 mv dl01.pre.exe dl01.pre
10 rtems-syms -e -c "-march=armv7-a -mthumb -mfp=neon -mfloat-abi=hard -
  ↳ mtune=cortex-a9 -O0 -g -Wall -Wmissing-prototypes -Wimplicit-function-
  ↳ declaration -Wstrict-prototypes -Wnested-externs" -o dl-sym.o dl01.pre
11 : error trying to exec 'arm-rtems4.11-gcc': execvp: No such file or directory
12 error: compiling wrapper: Compiler error
13 gmake[7]: *** [dl-sym.o] Error 10

```

Author: Chris Johns 2015-11-11T00:15:23.000Z

Original author: sebastian.huber

If we use 4.11 tools for 4.12 then this error is expected.

We could provide the version number on the command line and it would not matter.

Author: Chris Johns 2015-11-11T00:16:19.000Z

Original author: sebastian.huber

Why do we have arm-rtems4.11-gcc rather than arm-rtems-gcc?

Author: Trac Migrate 2015-11-11T06:58:08.000Z

Original author: sebastian.huber

Replying to [chrisj](#):

Why do we have arm-rtems4.11-gcc rather than arm-rtems-gcc?

See [#2377](#).

Author: Chris Johns 2015-11-11T07:48:23.000Z

Original author: sebastian.huber

Replying to [sebastian.huber](#):

Replying to [chrisj](#):

Why do we have arm-rtems4.11-gcc rather than arm-rtems-gcc?

See [#2377](#).

Haha yes I remember now. I have been thinking about the original reason and that was RPM files built and installing in to a common prefix. With the RSB we have moved to using different prefix paths and this makes the version number in the tool name redundant.

Author: Trac Migrate 2017-02-15T14:20:42.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"Indefinite"
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:02:24.439Z

changed the description

1.5.1.43 2462 - shared/gpio.c possible memory leaks (opened)

Id	2462
State	opened
Type	ISSUE
Author	Gedare Bloom
Assignee(s)	Trac Migrate
Created	2015-11-09T18:41:54.000Z
Updated	2025-09-19T01:46:10.073Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, version::4.11, version::4.12, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2462
Merges	0

rtems_gpio_enable_interrupt() in libbsp/shared/gpio.c should free the interrupt_state in case of a failure to rtems_gpio_interrupt_handler_install.

Also, the “if (threaded_handling) {” section the two error paths that return RTEMS_UNSATISFIED should undo the rtems_gpio_interrupt_handler_install of the pin handler and also free the interrupt_state.

Author: Gedare Bloom 2015-11-09T18:46:21.000Z

- **Milestone** changed from %”4.11.1” to %”4.12”
- **Version** changed from ~”4.11” to ~”4.12”

Author: Trac Migrate 2015-11-11T15:56:13.000Z

In changeset f8bdd12a48d82a26cd9ddb84bdfa1544a4592e0d:

gpio: free memory in error path Updates [#2462](#).

Author: Trac Migrate 2017-02-15T14:20:42.000Z

- **Milestone** changed from %”4.12” to %”Indefinite”
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:02:24.229Z

changed the description

1.5.1.44 2434 - general gpio.h is no longer installed leading to build breakage (opened)

Id	2434
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2015-10-21T14:57:04.000Z
Updated	2025-09-19T01:46:09.956Z
Milestone	5.4
Labels	old-indefinite, priority::normal, resolution::fixed, tickettype::defect, version::4.10, version::4.12, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2434
Merges	0

Original author: beng

The bsp-general <bsp/gpio.h> is no longer pre-installed, presumably since commit 5458bff92 regenerated preinstall.am. This causes build breakage for BSP's implementing the gpio interface (e.g. beagle):

```
arm-rtems4.11-gcc -pipe -B../..../lib/ -B../..../beagleboneblack/lib/
-spes bsp_spec -qrtems -DHAVE_CONFIG_H -I../..../rtems-
src/c/src/lib/libbsp/arm/beagle/../../libcpu/arm/shared/include -mcpu=cortex-a8 -
O2 -g -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes
-Wnested-externs -MT libbsp_a-gpio.o -MD -MP -MF .deps/libbsp_a-gpio.Tpo -c -o
libbsp_a-gpio.o test -f '../..../shared/gpio.c' || echo '../..../shared/gpio.c'
../..../shared/gpio.c:20:22: fatal error: bsp/gpio.h: No such
file or directory
```

include <bsp/gpio.h>

Thanks for Claudio Scordino and Debajyoti Majumdar for their interest in the Beagle BSP and for reporting this problem.

- [fix-2434.txt](#)

Author: Trac Migrate 2015-10-21T14:58:23.000Z

Original author: beng

- **Attachment** [fix-2434.txt](#) added

Proposed patch

Author: Joel Sherrill 2015-10-21T15:02:52.000Z

Original author: beng

Feel free to apply this to the master and 4.11 branch as appropriate.

Author: Trac Migrate 2015-10-21T15:07:17.000Z

Original author: beng

- **Owner** set to Ben Gras <beng@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 6f6e5d758f6a1e7dcae74e151c3dd3d1034da232:

libbsp/Makefile.am: gpio.h as preinstalled header Also regenerate pre-install.am. Closes [#2434](#).

Author: Trac Migrate 2015-11-10T09:17:33.000Z

Original author: beng

- **Milestone** changed from %"4.11.1" to %"4.12"
- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*
- **Version** changed from ~"4.10" to ~"4.12"

On 06/11/15 23:57, André Marques wrote:

Hello, This issue was resolved earlier with the following patch <https://git.rtems.org/rtems/commit/c/src/lib/libbsp/Makefile.am?id=a57b72ded94b4e77fd4f9bd3cc37380a02e3e35a> where the inclusion of the GPIO API header file was removed from the libbsp/shared makefile and moved (in the case of the Raspberry Pi, but I forgot about the beagle BSP) to the BSP makefile which intends to use the API. This avoids these name clashes with BSPs that already have a gpio.h header file. However the following patch reintroduced the gpio API header on the libbsp/shared makefile <https://git.rtems.org/rtems/commit/c/src/lib/libbsp/Makefile.am?id=6f6e5d758f6a1e7dcae74e151c3dd3d1034da232> This last patch should be reverted, and the shared/include/gpio.h should be included in the beagle BSP makefile that requires it, and motivated this reintroduction. I think it is better to have the BSPs include the gpio API header file if they actually implement the API, than forcing the header to all BSPs and creating these problems. Às 14:29 de 05-11-2015, Sebastian Huber escreveu:

On 05/11/15 15:17, Martin Galvan wrote:

The LPC1768 variants have a gpio.h file whose name clashes with the gpio.h from the new GPIO API. This results on the BSPs failing to compile. This patch renames the LPC1768 gpio.* files to lpc-gpio.*, as it's done on other BSPs (e.g. Beaglebone). Closes [#2441](#).

Thanks.

Author: Trac Migrate 2015-11-11T14:51:44.000Z

Original author: beng

All,

I see, sorry everyone, I wasn't aware of this problem.

Sebastian writes:

I think it is better to have the BSPs include the gpio API header file if they actually implement the API, than forcing the header to all BSPs and creating these problems.

As I see it, gpio.h is generic to BSPs (it describes a BSP-generic API) and so ought to be safe to install unconditionally.

Installing it only whenever BSPs implement the API isn't perfect either, as that precludes that BSP from having an installed gpio.h should they want it.

Can we install it unconditionally in a path that is safe from BSP-specific clashes?

Author: Trac Migrate 2015-11-11T14:55:37.000Z

Original author: beng

Or perhaps we can rename the generic gpio.h to a more specific name such as gpio-api.h.

Author: Chris Johns 2015-11-12T05:27:40.000Z

Original author: beng

Replying to [beng](#):

Sebastian writes:

I think it is better to have the BSPs include the gpio API header file if they actually implement the API, than forcing the header to all BSPs and creating these problems.

As I see it, gpio.h is generic to BSPs (it describes a BSP-generic API) and so ought to be safe to install unconditionally.

I agree with Ben and once we move to waf and have a single header tree with no pre-install stage this will be the case by default. We should have it in the tree now.

Installing it only whenever BSPs implement the API isn't perfect either, as that precludes that BSP from having an installed gpio.h should they want it.

Lets not do this.

Can we install it unconditionally in a path that is safe from BSP-specific clashes?

This will not happen in the single include tree.

The documentation for the BSP should clearly indicate the BSP supports GPIO. If I have selected a BSP without any GPIO pins and I need them I should consider a different career path. If the BSP has GPIO but no GPIO API support I should add the support.

Replying to **beng**:

Or perhaps we can rename the generic gpio.h to a more specific name such as gpio-api.h.

Please to not add 'api' to a header file name as a header by definition is an API. Should we add -c-language, -textfile etc as well? ;)

Author: Trac Migrate 2015-11-18T16:01:58.000Z

Original author: beng

I don't think we have agreed on a way out here, or did I miss something?

Or perhaps we can rename the generic gpio.h to a more specific name such as gpio-api.h.

Please to not add 'api' to a header file name as a header by definition is an API. Should we add -c-language, -textfile etc as well? ;)

Point taken, though I'm not sure I agree all .h files describe such a 'public' API. It seems to me something like what I suggested (rename gpio.h to something that a BSP would never name it) is a simple and reasonably clean (the BSP's won't have to be touched) way out. Is another name an option for you Chris? E.g. gpio-shared.h?

Author: Trac Migrate 2017-05-11T07:31:02.000Z

Original author: beng

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-08-24T06:27:03.000Z

Original author: beng

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Amar Takhar 2025-09-05T03:02:23.325Z

changed the description

1.5.1.45 2370 - rtems/c/src/lib/libbsp/powerpc/mvme5500/network/if_1GHz/if_wm.c:1560: possible bad if ? (opened)

Id	2370
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2015-07-14T20:14:21.000Z
Updated	2025-09-19T01:46:09.852Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2370
Merges	0

Original author: dcb

[rtems/c/src/lib/libbsp/powerpc/mvme5500/network/if_1GHz/if_wm.c:1560]: (style) Expression '(X & 0xe) == 0x1' is always false.

Source code is

```
/* XXX Hardware bug?? */ if ((reg & 0xe) == 1) {
```

Author: Joel Sherrill 2015-07-14T20:19:51.000Z

Original author: dcb

I didn't check this file but assume it is based on the one in NetBSD.

http://cvsweb.netbsd.org/bsdweb.cgi/src/sys/dev/pci/if_wm.c?rev=1.336&content-type=text/x-cvsweb-markup&only_with_tag=MAIN

Double check me but I think the code is now this:

```
/* XXX Hardware bug?? */ if (sc->sc_type == WM_T_82544 && (reg & 0xe) == 1) { bit = CSR_READ(sc, mta_reg + ((reg - 1) << 2));
```

That looks better to me.

If that resolves the issue and the code still works, update this ticket with a patch.

Author: Gedare Bloom 2015-07-14T20:37:34.000Z

Original author: dcb

Problem is that masking off 0xe removes the 1 bit, so anything & 0xe != 1 ever.

Author: Joel Sherrill 2015-07-14T20:50:21.000Z

Original author: dcb

So the code is still broken on the NetBSD head?

Author: Gedare Bloom 2015-07-14T20:57:57.000Z

Original author: dcb

Well, the second part of the condition is a nop. I have no idea what the intent of this was.

Author: Joel Sherrill 2015-07-14T21:23:17.000Z

Original author: dcb

This driver is for an Intel NIC. The driver (by name) is not in FreeBSD. The NIC is likely in the e1000/ driver directory in the FreeBSD source. The FreeBSD driver covers a much larger set of NICs and I can't find the corresponding source to check.

Author: Trac Migrate 2017-01-26T07:16:00.000Z

Original author: dcb

- **Milestone** changed from %"4.11.1" to %"4.11.2"

Author: Trac Migrate 2017-02-15T13:37:51.000Z

Original author: dcb

- **Milestone** changed from %"4.11.2" to %"Indefinite"
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:02:20.628Z

changed the description

1.5.1.46 2342 - Doxygen does not include mscgen figures (opened)

Id	2342
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2015-05-08T15:01:37.000Z
Updated	2025-09-19T01:46:09.747Z
Milestone	5.4
Labels	doc, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2342
Merges	0

I assume mscgen is not installed since the figure that should be here is not: https://docs.rtems.org/doxygen/cpukit/html/group__ClassicEventTransient.html

Also is the Doxygen and documentation being regularly regenerated?

Author: Joel Sherrill 2017-01-13T22:32:03.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-01-26T07:16:00.000Z

- **Milestone** changed from %"4.11.1" to %"4.11.2"

Author: Chris Johns 2017-03-23T01:03:28.000Z

- **Milestone** changed from %"4.11.2" to %"4.11.3"

The 4.11.2 milestone is closing.

Author: Chris Johns 2018-02-05T05:47:57.000Z

- **Milestone** changed from %"4.11.3" to %"Indefinite"

Author: Amar Takhar 2025-09-05T03:00:56.183Z

changed the description

1.5.1.47 2177 - libtests/heapwalk fails with RTEMS_DEBUG enabled (opened)

Id	2177
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Joel Sherrill
Created	2014-04-16T06:26:26.000Z
Updated	2025-09-19T01:46:09.631Z
Milestone	5.4
Labels	old-indefinite, priority::low, priority::normal, rtems::testing, ticket-type::defect, version::4.11, version::4.12, version::5, version::HEAD
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2177
Merges	0

Original author: sebastian.huber

There are two options to fix this:

1. Fix the test so that it can cope with the heap protection.
2. Disable or simplify the test in case RTEMS_DEBUG is enabled.

Author: Trac Migrate 2014-04-16T06:26:26.000Z

Original author: sebastian.huber

There are two options to fix this:

1. Fix the test so that it can cope with the heap protection.
2. Disable or simplify the test in case RTEMS_DEBUG is enabled.

Author: Gedare Bloom 2014-11-24T18:58:28.000Z

Original author: sebastian.huber

- **Version** changed from ~"HEAD" to ~"4.11"

Replace Version=HEAD with Version=4.11 for the tickets with Milestone >= 4.11

Author: Trac Migrate 2014-12-18T12:36:05.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

1 There are two options to fix this:

2

3 1. Fix the test so that it can cope with the heap protection.

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(continued from previous page)

4

5

2. Disable or simplify the test in case RTEMS_DEBUG is enabled.

- **Milestone** changed from %”4.11” to %”5.0”
- **Priority** changed from ~”normal” to ~”low”

Author: Chris Johns 2017-08-14T00:42:45.000Z

Original author: sebastian.huber

- **Milestone** changed from %”5.0” to %”4.12.0”
- **Version** changed from ~”4.11” to ~”4.12”

Is this still valid?

Author: Trac Migrate 2017-08-24T07:32:25.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”Indefinite”

Yes, this is still valid.

Author: Amar Takhar 2025-09-05T03:00:55.080Z

changed the description

1.5.1.48 4984 - MCAN init fail on arm/samV71 bsp in RTEMS 5.3 (opened)

Id	4984
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2024-01-16T11:32:34.000Z
Updated	2025-09-19T01:45:47.585Z
Milestone	5.4
Labels	bsp, priority::high, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4984
Merges	0

Original author: darioia

Hi expert,

I have found some problems on MCAN module configuration running on SAM V71 XPLAINED ULTRA EVALUATION KIT.

It is not possible choice other input clock reference (excluded PMC_PCK_CSS_MCK), the default configuration works only on 500kb/s and MCANx_PROP_SEGy, MCANx_PROP_SEG and MCANx_SYNC_JUMP parameters not are compatibles with several MCAN bit time calculators suggested from Microchip, (is it possible have the MCAN calculator that you have used to calculate yours parameters?):

<https://www.kvaser.com/support/calculators/bit-timing-calculator/> <https://intrepidcs.com/products/free-tools/mb-time-calculator/>

PS: I have found the following register description error (the samV71 datasheet used is DS60001527H)

```
define MCAN_FBTP_FSJW_Msk (0x7u << MCAN_FBTP_FSJW_Pos)
```

```
define MCAN_FBTP_FTSEG2_Msk (0xfu << MCAN_FBTP_FTSEG2_Pos)
```

```
define MCAN_FBTP_FTSEG1_Msk (0x1fu << MCAN_FBTP_FTSEG1_Pos)
```

And our collaborators has found also:

```
define MCAN_BTP_SJW_Pos 25
```

```
define MCAN_BTP_SJW_Msk (0x7fu << MCAN_BTP_SJW_Pos)
```

```
define MCAN_BTP_TSEG2_Pos 0
```

```
define MCAN_BTP_TSEG2_Msk (0x7fu << MCAN_BTP_TSEG2_Pos)
```

```
define MCAN_BTP_TSEG1_Pos 8
```

```
define MCAN_BTP_TSEG1_Msk (0xffu << MCAN_BTP_TSEG1_Pos)
```

```
define MCAN_BTP_BRP_Msk (0x1ffu << MCAN_BTP_BRP_Pos)
```

I hope the description is clear enough.

Best regards, Dario

- [attach_ticket.txt](#)

Author: Joel Sherrill 2024-01-16T14:32:47.000Z

Original author: darioia

Since you have the hardware, have identified the bug, and apparently have a fix, it would be greatly appreciated if you could post a patch. The community will be happy to help you with this if you need help doing that.

Author: Trac Migrate 2024-01-19T12:13:09.000Z

Original author: darioia

Hi,

you can close the ticket. See the attach. The patches are done by hand made.

Regards, Dario

Author: Trac Migrate 2024-01-19T12:15:41.000Z

Original author: darioia

- **Attachment** [attach_ticket.txt](#) added

Attached file patches 1Mb/s speed configuration, register mapping wrong and problem with data cache in multiframe.

Author: Chris Johns 2025-09-19T01:45:47.663Z

changed the description

1.5.1.49 4983 - MCAN fail on arm/samV71 bsp in RTEMS 5.3 (opened)

Id	4983
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2024-01-16T11:05:23.000Z
Updated	2025-09-19T01:45:47.375Z
Milestone	5.4
Labels	bsp, priority::high, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/4983
Merges	0

Original author: darioia

Hi expert.

I have found a big problem regarding internal SAMV71 MCAN module (the code is unchanged regards RTEMS 6 then I think it should to be present also in that version) running on SAM V71 XPLAINED ULTRA EVALUATION KIT.

The problem is present in RX direction. I use FIFO functionality, I have configured 32 buffer in FIFOs, when I receive the 33th message, the packet is invalid (I think it is repeated one), follow you can see a couple of 15 messages that should to be identically, idx is buffer position in FIFO:

```
idx=4 MCAN Rx Fifo 0 data: 0x00 0x64 0x53 0x00 0x01 0x02 0x03 0x04 idx=5 MCAN Rx
Fifo 0 data: 0x01 0x05 0x06 0x07 0x08 0x09 0x0A 0x0B idx=6 MCAN Rx Fifo 0 data: 0x02
0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 idx=7 MCAN Rx Fifo 0 data: 0x03 0x13 0x14 0x15
0x16 0x17 0x18 0x19 idx=8 MCAN Rx Fifo 0 data: 0x04 0x1A 0x1B 0x1C 0x1D 0x1E 0x1F
0x20 idx=9 MCAN Rx Fifo 0 data: 0x05 0x21 0x22 0x23 0x24 0x25 0x26 0x27 idx=10 MCAN
Rx Fifo 0 data: 0x06 0x28 0x29 0x2A 0x2B 0x2C 0x2D 0x2E idx=11 MCAN Rx Fifo 0 data:
0x07 0x2F 0x30 0x31 0x32 0x33 0x34 0x35 idx=12 MCAN Rx Fifo 0 data: 0x08 0x36 0x37
0x38 0x39 0x3A 0x3B 0x3C idx=13 MCAN Rx Fifo 0 data: 0x09 0x3D 0x3E 0x3F 0x40 0x41
0x42 0x43 idx=14 MCAN Rx Fifo 0 data: 0x0A 0x44 0x45 0x46 0x47 0x48 0x49 0x4A idx=15
MCAN Rx Fifo 0 data: 0x0B 0x4B 0x4C 0x4D 0x4E 0x4F 0x50 0x51 idx=16 MCAN Rx Fifo 0
```

data: 0x0C 0x52 0x53 0x54 0x55 0x56 0x57 0x58 idx=17 MCAN Rx Fifo 0 data: 0x0D 0x59 0x5A 0x5B 0x5C 0x5D 0x5E 0x5F idx=18 MCAN Rx Fifo 0 data: 0x0E 0x60 0x61 0x62 0x63 0xA9

idx=19 MCAN Rx Fifo 0 data: 0x00 0x64 0x53 0x00 0x01 0x02 0x03 0x04 idx=20 MCAN Rx Fifo 0 data: 0x01 0x05 0x06 0x07 0x08 0x09 0x0A 0x0B idx=21 MCAN Rx Fifo 0 data: 0x02 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 idx=22 MCAN Rx Fifo 0 data: 0x03 0x13 0x14 0x15 0x16 0x17 0x18 0x19 idx=23 MCAN Rx Fifo 0 data: 0x04 0x1A 0x1B 0x1C 0x1D 0x1E 0x1F 0x20 idx=24 MCAN Rx Fifo 0 data: 0x05 0x21 0x22 0x23 0x24 0x25 0x26 0x27 idx=25 MCAN Rx Fifo 0 data: 0x06 0x28 0x29 0x2A 0x2B 0x2C 0x2D 0x2E idx=26 MCAN Rx Fifo 0 data: 0x07 0x2F 0x30 0x31 0x32 0x33 0x34 0x35 idx=27 MCAN Rx Fifo 0 data: 0x08 0x36 0x37 0x38 0x39 0x3A 0x3B 0x3C idx=28 MCAN Rx Fifo 0 data: 0x09 0x3D 0x3E 0x3F 0x40 0x41 0x42 0x43 idx=29 MCAN Rx Fifo 0 data: 0x0A 0x44 0x45 0x46 0x47 0x48 0x49 0x4A idx=30 MCAN Rx Fifo 0 data: 0x0B 0x4B 0x4C 0x4D 0x4E 0x4F 0x50 0x51 idx=31 MCAN Rx Fifo 0 data: 0x0C 0x52 0x53 0x54 0x55 0x56 0x57 0x58 **idx=0 MCAN Rx Fifo 0 data: 0x00 0x14 0x33 0x00 0x01 0x02 0x03 0x04** idx=1 MCAN Rx Fifo 0 data: 0x0E 0x60 0x61 0x62 0x63 0xA9

The first data byte is the internal sequence number (0x00 - 0x0E) If I reduce the fifo length the problem is present in (MCAN1_NMBR_RX_FIFOx_ELMTS - 1) fifo element, the problem is present in polling mode and in interrupt mode.

I have seen the Microchip reference code found in https://github.com/Microchip-MPLAB-Harmony/csp_apps_sam_e70_s70_v70_v71.git

```
bool MCAN1_MessageReceiveFifo(MCAN_RX_FIFO_NUM rxFifoNum, uint8_t numberOfMessage, MCAN_RX_BUFFER rxBuffer) {
    uint8_t rxgi = 0U;
    switch (rxFifoNum) {
        case MCAN_RX_FIFO_0: /* Read data from the Rx FIFO0 */
            rxgi = (uint8_t)((MCAN1_REGS->MCAN_RXFOS & MCAN_RXFOS_FOGI_Msk) >> MCAN_RXFOS_FOGI_Pos);
            for (count = 0U; count < numberOfMessage; count++) {
                rxFifo = (uint8_t *) ((uint8_t *) mcan1Obj.msgRAMConfig.rxFIFO0Address + ((uint32_t)rxgi * MCAN1_RX_FIFO0_ELEMENT_SIZE));
```

```
(void) memcpy(rxBuf, rxFifo, MCAN1_RX_FIFO0_ELEMENT_SIZE);
```

```
if ((count + 1U) == numberOfMessage) { break; } rxBuf += MCAN1_RX_FIFO0_ELEMENT_SIZE; rxgi++;
if (rxgi == 1U) { rxgi = 0U; }
```

```
/* Ack the fifo position */ MCAN1_REGS->MCAN_RXFOA = MCAN_RXFOA_F0AI((uint32_t)rxgi);
```

```
status = true; break; ... } return status; }
```

I suppose there are a different handling on the first buffer.

I hope the description is clear enough.

Best regards, Dario

Author: Trac Migrate 2024-01-19T11:38:37.000Z

Original author: darioia

Hi,

you can close the ticket, our collaborator have found the problem regarding caching of data, is “just” necessary to place the call `rtems_cache_disable_data` in the following function:

```
uint32_t  **MCAN_GetRxFifoBuffer**(const  MCan_ConfigType  *mcanConfig,
MCan_FifoType fifo, Mailbox64Type *pRxMailbox) { ... fill_level = 0;

**rtems_cache_disable_data**());
```

Regards, Dario

Author: Chris Johns 2025-09-19T01:45:47.470Z

changed the description

1.5.1.50 4972 - potential issues? Undefined behavior issues caused by the misuse of keywords were discovered in RTEMS, which will cause the program to run incorrectly. (opened)

Id	4972
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2023-11-23T14:08:39.000Z
Updated	2025-09-19T01:45:47.200Z
Milestone	5.4
Labels	priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4972
Merges	0

Original author: madongyu

An undefined behavior issue caused by the misuse of `const` keyword was discovered in RTEMS in function `rtems_bsdnet_show_mbuf_stats()` of `/RTEMS/4.11.3/kernel/rtems/cpukit/libnetworking/rtems/rtems_showmbuf.c` file in line 41.

An undefined behavior issue caused by the misuse of `const` keyword was discovered in RTEMS in function `compress2()` of `/RTEMS/4.11.3/kernel/rtems/cpukit/zlib/compress.c` file in line 30.

- [Defects Description.pdf](#)

Author: Trac Migrate 2023-11-23T14:16:30.000Z

Original author: madongyu

- **Attachment** [Defects Description.pdf](#) added

Undefined behavior issues caused by the misuse of keywords were discovered in RTEMS, which will cause the program to run incorrectly.

Author: Trac Migrate 2023-11-23T14:18:40.000Z

Original author: madongyu

Real-Time Executive for Multiprocessing Systems (RTEMS) , version 5.3

Author: Chris Johns 2025-09-19T01:45:47.267Z

changed the description

1.5.1.51 4904 - Application build with vendor target toolchain fails with rtems make build support (opened)

Id	4904
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2023-05-14T10:29:06.000Z
Updated	2025-09-19T01:45:46.997Z
Milestone	5.4
Labels	priority::normal, rtems::build, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4904
Merges	0

Original author: arand

When building an application using the make build support (as given by the example in make/Templates/Makefile.leaf), and when the used toolchain has a vendor identifier as part of the target triplet (for example sparc-**gaisler**-rtems5), the build fails with the following kind of error:

```

1 <user_path>/make/custom/default.cfg:14: <user_path>/sparc-rtems5/leon3/make/bsp.
   ↳ cfg: No such file or directory
2 make: *** No rule to make target '<user_path>/sparc-rtems5/leon3/make/bsp.cfg'.
   ↳ Stop.
```

This seems to be due to make/custom/default.cfg which uses:

```

1 !#make
2 (...)
3 RTEMS_TARGET = $(RTEMS_CPU)-rtems$(RTEMS_API)
4
5 include $(RTEMS_ROOT)/$(RTEMS_TARGET)/$(RTEMS_BSP)/make/target.cfg
6 include $(RTEMS_SHARE)/make/host.cfg
7
8 include $(RTEMS_ROOT)/make/main.cfg
9 include $(RTEMS_ROOT)/$(RTEMS_TARGET)/$(RTEMS_BSP)/make/bsp.cfg
```

where RTEMS_CPU does not include the vendor id, and hence gives an incorrect target triplet in RTEMS_TARGET.

This seems to be a regression between rtems 4.11 and rtems 5 introduced in

270c5df5/rtems

Author: Chris Johns 2023-05-15T03:29:43.000Z

Original author: arand

Does your build system provide RTEMS_TARGET?

How do you specify the sparc-gaisier label?

Author: Trac Migrate 2023-05-15T07:59:13.000Z

Original author: arand

My build system does not touch RTEMS_TARGET, I'm using a Makefile based on the Makefile.leaf template:

```

1  !#make
2  # C source names, if any, go here -- minus the .c
3  C_PIECES=foo
4  C_FILES=$(C_PIECES:%=%.c)
5  C_O_FILES=$(C_PIECES:%=${ARCH}/%.o)
6
7  SRCS=$(C_FILES) $(CC_FILES) $(H_FILES) $(S_FILES)
8  OBJS=$(C_O_FILES) $(CC_O_FILES) $(S_O_FILES)
9
10 PGMS=${ARCH}/foo.exe
11
12 include $(RTEMS_MAKEFILE_PATH)/Makefile.inc
13 include $(RTEMS_CUSTOM)
14 include $(RTEMS_ROOT)/make/leaf.cfg
15
16 all:    ${ARCH} $(SRCS) $(PGMS)
17
18 # The following links using C rules.
19 ${ARCH}/foo.exe: ${OBJS} ${LINK_FILES}
20 $(make-exe)

```

and pointing RTEMS_MAKEFILE_PATH to a compiled and installed version of an RTEMS BSP.

The sparc-gaisler-rtems5 triplet is given by the toolchain, in my case this is taken directly from rcc-1.3.1-gcc from <https://www.gaisler.com/index.php/products/operating-systems/rtems> .

However I would guess that this problem would apply to any toolchain with a vendor in its name (even “unknown”).

Author: Chris Johns 2025-09-19T01:45:47.076Z

changed the description

1.5.1.52 4898 - Checksum of libbsd5.3 is not correct (opened)

Id	4898
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2023-04-17T10:54:23.000Z
Updated	2025-09-19T01:45:46.820Z
Milestone	5.4
Labels	priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4898
Merges	0

Original author: marcrew

There is checksum error reported when source builder is building the libbsd 5.3.

Author: Trac Migrate 2023-04-17T10:58:36.000Z

Original author: marcrew

- **Owner** set to Chris
- **Status** changed from *new* to *assigned*

Author: Chris Johns 2025-09-19T01:45:46.876Z

changed the description

1.5.1.53 4764 - msdos_format throws RTEMS_FATAL_SOURCE_INVALID_HEAP_FREE on free(fmt_params.sec) (opened)

Id	4764
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-11-25T16:17:10.000Z
Updated	2025-09-19T01:45:46.731Z
Milestone	5.4
Labels	filesystem::fat, old-indefinite, priority::high, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4764
Merges	0

Original author: Fantomas96

Hello, I'm trying to mount the FAT filesystem on the external memory of an atsamv xpalined ultra. I managed to mount the device but when calling the msdos_format function to format

the memory I get a RTEMS_FATAL_SOURCE_INVALID_HEAP_FREE fault. The fault is thrown when the function calls the free on the fmt_params.sec pointer.

- [Immagine.png](#)

Author: Trac Migrate 2022-11-25T16:18:17.000Z

Original author: Fantomas96

- **Attachment** [Immagine.png](#) added

Error screenshot

Author: Joel Sherrill 2022-11-25T16:20:39.000Z

Original author: Fantomas96

Without looking at the code, this should indicate that the address passed to free() is not one that was malloced. Perhaps it should have been set to NULL in the structure earlier and just garbage is passed in when clean up occurs. Otherwise, there is what I would think is a bug which would have been tripped over in the most basic testing and use.

Author: Trac Migrate 2022-11-28T10:02:58.000Z

Original author: Fantomas96

Ok I found something interesting. First of all if I compile the rtems code with the flag `-enable-rtems-debug` the malloc of `fmt_params.sec` doesn't work so the pointer it's NULL and the function tries to free a NULL pointer. I don't know if the malloc not allocating is an expected behaviour in this condition. But if I remove the flag and recompile the kernel the malloc is working and everything seems to work smoothly until I get to the free. The pointer now it's allocated and it contains the stuff that is being written in the external flash. Here's what the pointer contains when the free it's called. !` <https://ibb.co/djrp9ym> <<https://ibb.co/djrp9ym>>`. Now the free stil doesn't work and returns the same error as before. This obviously causes my RTEMS app to stop working. If I reboot the app the `msdos_format` it's called again but in this case the external memory is not erased since the function called in the previous execution was formatting the external memory with the FAT filesystem. So now I got a crc error. I suppose this is because the previous execution was stopped and the QSPI driver hadn't finished writing to external memory. He's a screen shot of the full error. !` <https://ibb.co/RhXFR8j> <<https://ibb.co/RhXFR8j>>`. The interesting thing is that now the free works and my application keeps working as we can see from the screenshot. Obviously the filesystem is not mounted so it's still working in the IMFS filesystem.

Author: Chris Johns 2022-12-06T22:42:08.000Z

Original author: Fantomas96

- **Milestone** changed from %”5.1” to %”Indefinite”

Author: Amar Takhar 2025-09-05T02:57:54.160Z

changed the description

1.5.1.54 4720 - Backport rtems-tools fixes (opened)

Id	4720
State	opened
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2022-09-22T07:17:59.000Z
Updated	2025-09-19T01:45:46.548Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, tool::test, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4720
Merges	0

The devel branch hashes are:

- [e3a5912249fc783d8b61e7e633edbb749af915d7](#)
- [ace7db96d4561665b07ba15c2fe5f9349f4d3d8c](#)
- [f3d9c879583a9f89a6deb8b9e52a61b946ef6fab](#)
- [072f88f4d42e87c992cf420cfb98ae8cce54c177](#)
- [f199d42e47e2e19175427e95797ca2f829f6aaa9](#)
- [b8307aa287acd2371323d7202a62fa0130dae9fb](#)
- [3f3249c0f78efb3a27e7674aed0a432a2572101d](#)

If you think more should be back ported please add.

Author: Chris Johns 2022-11-09T22:48:51.000Z

- **Milestone** changed from %”5.2” to %”Indefinite”

Author: Amar Takhar 2025-09-05T02:57:53.575Z

changed the description

1.5.1.55 4685 - Incorrect 3C509 driver function signature in PC BSP (opened)

Id	4685
State	opened
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-07-26T07:09:55.000Z
Updated	2025-09-19T01:45:46.443Z
Milestone	5.4
Labels	bsp, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4685
Merges	0

The function signature for the PC BSP 3C509 driver is wrong.

Author: Chris Johns 2022-07-26T07:13:32.000Z

There is no detach code. Might be a good idea to add some.

Author: Chris Johns 2022-11-09T23:28:07.000Z

- **Milestone** changed from %"5.2" to %"Indefinite"

Author: Amar Takhar 2025-09-05T02:57:53.378Z

changed the description

1.5.1.56 4542 - filename length problem in JFFS2 with RTEMS4.11.3/RTEMS5.1 (opened)

Id	4542
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-11-03T01:23:44.000Z
Updated	2025-09-19T01:45:46.224Z
Milestone	5.4
Labels	filesystem::jffs2, filesystem::jffs2, old-indefinite, priority::normal, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4542
Merges	0

Original author: chenjin_zhong

Hi, the MACRO JFFS2_MAX_NAME_LEN defines the maximum length of filename is 254. The length of filename is unchecked in jffs2_create. But the length of filename is checked in rtems_jffs2_rmnod and rtems_jffs2_rename. This causes the creation of a file with a length of

more than JFFS2_MAX_NAME_LEN will succeed, but rename or unlink failed. The src code is listed as follows. The bold function detects the length of filename. static int rtems_jffs2_rmnod(const rtems_filesystem_location_info_t parentloc, const rtems_filesystem_location_info_t *loc) { struct _inode *dir_i = rtems_jffs2_get_inode_by_location(parentloc); struct _inode *entry_i = rtems_jffs2_get_inode_by_location(loc); char *name; size_t namelen; int eno = **rtems_jffs2_cache_fd_name(entry_i, &name, &namelen)*;

if (eno == 0) { switch (dir_i->i_mode & S_IFMT) { case S_IFDIR: eno = -jffs2_rmdir(dir_i, entry_i, name, namelen); break; case S_IFREG: eno = -jffs2_unlink(dir_i, entry_i, name, namelen); break; default: eno = EINVAL; break; } }

return rtems_jffs2_eno_to_rv_and_errno(eno); }

static int rtems_jffs2_rmnod(const rtems_filesystem_location_info_t parentloc, const rtems_filesystem_location_info_t *loc) { struct _inode *dir_i = rtems_jffs2_get_inode_by_location(parentloc); struct _inode *entry_i = rtems_jffs2_get_inode_by_location(loc); char *name; size_t namelen; int eno = **rtems_jffs2_cache_fd_name(entry_i, &name, &namelen)*;

if (eno == 0) { switch (dir_i->i_mode & S_IFMT) { case S_IFDIR: eno = -jffs2_rmdir(dir_i, entry_i, name, namelen); break; case S_IFREG: eno = -jffs2_unlink(dir_i, entry_i, name, namelen); break; default: eno = EINVAL; break; } }

Author: Trac Migrate 2021-11-12T13:51:59.000Z

Original author: chenjin_zhong

This looks like a valid bug. The next step would be to add a test case to the test suite which reproduces the bug.

Author: Trac Migrate 2021-11-12T13:53:15.000Z

Original author: chenjin_zhong

- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Chris Johns 2022-11-10T02:03:01.000Z

Original author: chenjin_zhong

- **Milestone** changed from %”5.1” to %”5.3”

Author: Chris Johns 2023-01-31T05:37:48.000Z

Original author: chenjin_zhong

- **Milestone** changed from %”5.3” to %”Indefinite”

The ticket needs funding to be resolved.

Author: Amar Takhar 2025-09-05T02:57:51.021Z

changed the description

1.5.1.57 4464 - gpiolib: Add support for newer grgpio features (opened)

Id	4464
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-07-01T15:42:12.000Z
Updated	2025-09-19T01:45:46.107Z
Milestone	5.4
Labels	arch:sparc, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4464
Merges	0

Original author: soja

Current version of gpiolib is not aware of the input enable register of the grgpio core, when presence is indicated through capability register.

Also currently only interrupt support for “irqgen == 0” is supported. Our interface card has the mode “irqgen == 1” according to the capabilities register.

Author: Trac Migrate 2021-07-01T15:42:33.000Z

Original author: soja

- **Owner** set to soja
- **Status** changed from *new* to *accepted*

Author: Chris Johns 2022-11-09T23:49:37.000Z

Original author: soja

- **Milestone** changed from %”5.2” to %”5.3”

Author: Chris Johns 2023-02-08T03:19:58.000Z

Original author: soja

- **Milestone** changed from %”5.3” to %”Indefinite”

This requires Daniel and someone to work with him to resolve. There is no point moving each release to the next milestone.

Author: Amar Takhar 2025-09-05T02:57:50.827Z

changed the description

1.5.1.58 4344 - powerpc/beatnik: split network driver into multiple files (preparation for libbsd support) (opened)

Id	4344
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-16T09:30:23.000Z
Updated	2025-09-19T01:45:45.738Z
Milestone	5.4
Labels	bsp, old-indefinite, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4344
Merges	0

Original author: till.straumann@psi.ch

This [pull request](#) (on top of the 5 branch) breaks the mv643xx driver into two parts * low-level driver; independent from BSD * legacy BSD networking support layer The first is independent from RTEMS' networking support and always part of the BSP (can e.g., be used to implement low-level ethernet access). The second builds on top of the first and is only enabled when RTEMS is configured with legacy BSDnet support.

Note: the driver design has not changed; there have always been two layers; this patch just splits the code into separate files. It is a necessary preparation for a new rtems-libbsd/nexus driver (which is submitted in a separate ticket)

Author: Trac Migrate 2021-03-16T09:38:46.000Z

Original author: till.straumann@psi.ch

Here the related [rtems-libbsd ticket](#).

Author: Chris Johns 2022-11-10T00:10:02.000Z

Original author: till.straumann@psi.ch

- **Milestone** changed from %"5.1" to %"5.3"

Author: Chris Johns 2023-01-30T01:00:51.000Z

Original author: till.straumann@psi.ch

- **Milestone** changed from %"5.3" to %"Indefinite"

Please select a milestone when the work can be completed for that milestone.

Author: Amar Takhar 2025-09-05T02:57:49.420Z

changed the description

1.5.1.59 4322 - Add a workaround for the LEON3FT RETT Restart errata: TN-0018 (opened)

Id	4322
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-09T13:52:28.000Z
Updated	2025-09-19T01:45:45.642Z
Milestone	5.4
Labels	bsp, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4322
Merges	0

Original author: daniel

See also:

<https://www.gaisler.com/doc/antn/GRLIB-TN-0018.pdf>

The GCC patch has been accepted upstreams into master and GCC-10 branch:

<https://gcc.gnu.org/git/?p=gcc.git;a=commit;h=4b690f161b82e428dbe648075da215daa52be0ea>
<https://gcc.gnu.org/git/?p=gcc.git;a=commit;h=1aed3f059ebd08fffe1346ac7ecf8e8606359875>

- [gcc-7.5-sparc-rtems-add-__FIX_LEON3FT_TN0018-for-affected-ta.patch](#)

Author: Trac Migrate 2021-03-09T13:53:52.000Z

Original author: daniel

- **Attachment** [gcc-7.5-sparc-rtems-add-__FIX_LEON3FT_TN0018-for-affected-ta.patch](#) added

GCC-7.5 backport from GCC-10 patch linked in ticket.

Author: Trac Migrate 2021-03-09T14:18:14.000Z

Original author: daniel

Proposed RTEMS kernel fix: <https://lists.rtems.org/pipermail/devel/2020-October/062826.html>

Author: Trac Migrate 2021-11-23T09:57:48.000Z

Original author: daniel

For the RTEMS pre-qualification only #4155 is relevant.

Author: Chris Johns	2022-11-09T23:23:31.000Z

Original author: daniel

- **Milestone** changed from %”5.2” to %”5.3”

Author: Chris Johns	2023-02-08T03:20:41.000Z

Original author: daniel

- **Milestone** changed from %”5.3” to %”Indefinite”

This requires Daniel and someone to work with him to resolve. There is no point moving each release to the next milestone.

Author: Amar Takhar	2025-09-05T02:57:48.638Z

changed the description

1.5.1.60 4318 - grlib,gr1553bc: set BC transfer descriptor timeout correctly (opened)

Id	4318
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-07T15:00:47.000Z
Updated	2025-09-19T01:45:45.534Z
Milestone	5.4
Labels	bsp, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4318
Merges	0

Original author: daniel

GR1553 BC driver gr1553bc_slot_transfer() bit shift logic does not match hardware, if a too large timeout value has given the wrong bus could have been selected. The timeout value was taken from a specific RT’s setting, however from the wrong RT. This may not be seen if all RT’s use the same timoute settings.

Author: Trac Migrate	2021-03-09T13:31:18.000Z

Original author: daniel

- **Milestone** changed from %”6.1” to %”5.2”

Author: Chris Johns 2022-11-09T23:22:59.000Z

Original author: daniel

- **Milestone** changed from %”5.2” to %”5.3”

Author: Chris Johns 2023-02-08T03:19:26.000Z

Original author: daniel

- **Milestone** changed from %”5.3” to %”Indefinite”

This requires Daniel and someone to work with him to resolve. There is no point moving each release to the next milestone.

Author: Amar Takhar 2025-09-05T02:57:48.441Z

changed the description

1.5.1.61 4317 - grlib,gr1553bc: list creation did not set table_size field (opened)

Id	4317
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-07T14:55:42.000Z
Updated	2025-09-19T01:45:45.410Z
Milestone	5.4
Labels	bsp, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4317
Merges	0

Original author: daniel

By not setting the table_size field, either required the user to do that or that the memory returned by malloc() had a reasonable non-zero value, otherwise the interrupt handler could miss some of the buffer decriptor processing expected by the API. By setting the table_size according to the driver calculated list size the user will not have to do that themselves and simplifies the usage of the API and potential bugs.

Author: Trac Migrate 2021-03-09T13:30:56.000Z

Original author: daniel

- **Milestone** changed from %”6.1” to %”5.2”

Author: Chris Johns 2022-11-09T23:22:21.000Z

Original author: daniel

- **Milestone** changed from %”5.2” to %”5.3”

Author: Chris Johns	2023-02-08T03:16:54.000Z

Original author: daniel

- **Milestone** changed from %”5.3” to %”Indefinite”

This requires Daniel and someone to work with him to resolve. There is no point moving each release to the next milestone.

Author: Amar Takhar	2025-09-05T02:57:48.226Z

changed the description

1.5.1.62 4179 - libbsd select timeout issue (opened)

Id	4179
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Kinsey Moore
Created	2020-11-17T01:45:41.000Z
Updated	2025-09-19T01:45:45.285Z
Milestone	5.4
Labels	libbsd, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4179
Merges	0

Original author: ruizx

Kernel put the select thread to sleep queue in `sleepq_set_timeout_sbt`, the expire value is calculated by this `expire = (sbt - SBT_1S + sbt_per_tick - 1) / sbt_per_tick`; `sbt` is the absolute time, no time drift. but the `sbt_per_tick` is not an accurate value, it can make the expire value bigger and bigger while `sbt` is increasing.

In `rtems_bsd_initialize` function, `rtems_bsd_sbt_per_watchdog_tick = SBT_1S / tps`;

In our system the tick rate is set to 1000Hz, the real value of `rtems_bsd_sbt_per_watchdog_tick` is $1 < 32/1000 = 4294967.296$ but in integer type the value is 4294967. The error is $0.296/4294967 = 0.069\text{ppm}$, and it can increase the expire value 1ms every 14000 seconds.

- [select.patch](#)

Author: Trac Migrate	2020-11-17T01:48:10.000Z

Original author: ruizx

- **Attachment** [select.patch](#) added

using relative time for reference

Author: Trac Migrate 2021-03-04T08:08:27.000Z

Original author: ruizx

- **Owner** set to Sebastian Huber <sebastian.huber@embedded-brains.de>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"8fe59be236e7f2047adb6e393639bbf56bbd996d/rtems"8fe59be/rtems]:

```
1 validation: Fix for 64-bit targets
2
3 Closes #4179.
```

Author: Trac Migrate 2021-03-04T08:10:54.000Z

Original author: ruizx

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

Sorry, wrong number in commit.

Author: Fabrizio Pirovano 2025-02-03T10:39:00.836Z

This patch, after four years, is still open and it is not been applied to rtems-6-freebsd-12 and to main branch.

Does the patch need to be applied?

Author: Amar Takhar 2025-02-03T12:39:31.001Z

Assigning this to @opticon he was looking at issues that have patches. Maybe @chris has some insight

Author: Amar Takhar 2025-02-03T12:39:36.956Z

changed the description

Author: Amar Takhar 2025-02-03T12:39:36.996Z

assigned to @opticon and unassigned @tracmigrate

1.5.1.63 4146 - rtems-tools/doc/rtems-tester.txt Needs Updating or Removed (opened)

Id	4146
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2020-10-14T17:00:58.000Z
Updated	2025-09-19T01:45:45.160Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4146
Merges	0

This file mentions both sis and the autoconf based build system in its instructions. Hopefully, this file has no information which is not in the Sphinx based documentation and can simply be removed.

Filed against 5 and wafblocker since file is on 5 branch as well as master and contains information that is misleading and incorrect for the waf build process.

Author: Chris Johns 2022-11-09T22:34:00.000Z

- **Milestone** changed from %”5.2” to %”Indefinite”

Please assign a milestone when a fix is scheduled or please close this ticket.

Author: Amar Takhar 2025-09-05T02:57:45.606Z

changed the description

1.5.1.64 4144 - fileio - Stack too small for login with password (cloned) (opened)

Id	4144
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-10-12T13:21:05.000Z
Updated	2025-09-19T01:45:45.033Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, tool::test, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4144
Merges	0

Original author: frank_k

Cloned from #4143:

When I use the ‘shell’ from the fileio sample with the command below:

```
1 env QEMU_AUDIO_DRV="none" \\  
2 qemu-system-arm -no-reboot -net none -nographic -M realview-pbx-a9 -m 256M \\  
3 -kernel build/arm/realview_pbx_a9_qemu/testsuites/samples/fileio.exe
```

The executable crashes with an “BLOWN STACK!!!” as soon as I try to login as ‘root’ with password. (The logins without password work fine.) Increasing the stack size of the affected thread a bit (to 5 times RTEMS_MINIMUM_STACK_SIZE) solves the issue.

How to reproduce:

1. Start the fileio sample in QEMU with the above command.
2. Type a key to stop the timer.
3. Type “s” <return> to enter the shell.
4. Login as “root” with the password printed to the terminal.
5. In the line with the first shell prompt, the text “BLOWN STACK!!!” appears unexpectedly followed by further crash information.

```
1 [...]  
2 /dev/foobar login: root  
3 Password:  
4  
5 RTEMS Shell on /dev/foobar. Use 'help' to list commands.  
6 SHLL [/] # BLOWN STACK!!!  
7 task control block: 0x00205278  
8 [...]
```

Author: Joel Sherrill 2020-10-12T13:27:26.000Z

Original author: frank_k

At the risk of repeating myself, why do we ever use -O0 anymore now that GCC has -Og. From <https://gcc.gnu.org/onlinedocs/gcc/Optimize-Options.html>

```
1 -Og  
2 Optimize debugging experience. -Og should be the optimization level of_  
3 ↪ choice for the standard edit-compile-debug cycle, offering a_  
4 ↪ reasonable level of optimization while maintaining fast compilation_  
5 ↪ and a good debugging experience. It is a better choice than -O0 for_  
6 ↪ producing debuggable code because some compiler passes that collect_  
7 ↪ debug information are disabled at -O0.  
8  
9 Like -O0, -Og completely disables a number of optimization passes so_  
10 ↪ that individual options controlling them have no effect. Otherwise -  
11 ↪ -Og enables all -O1 optimization flags except for those that may_  
12 ↪ interfere with debugging:  
13  
14 -fbranch-count-reg -fdelayed-branch
```

(continues on next page)

(continued from previous page)

```

7 -fdse -fif-conversion -fif-conversion2
8 -finline-functions-called-once
9 -fmove-loop-invariants -fssa-phiopt
10 -ftree-bit-ccp -ftree-dse -ftree-pta -ftree-sra

```

I don't have problem with increasing the configured minimum stack size value for this sample. It would be better than tinkering with individual create invocations. But if -O0 is the culprit, let's just switch away from it.

Author: Chris Johns 2022-11-09T22:32:58.000Z

Original author: frank_k

- **Milestone** changed from %"5.2" to %"Indefinite"

Author: Amar Takhar 2025-09-05T02:57:45.352Z

changed the description

1.5.1.65 4136 - examples/README.waf: Out of Date URL for How to Setup a Waf based RTEMS Application (opened)

Id	4136
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2020-10-08T16:27:55.000Z
Updated	2025-09-19T01:45:44.919Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4136
Merges	0

The README.waf has <http://www.rtems.org/ftp/pub/rtems/people/chrisj/rtl/rtems-linker/waf.html>

where should this point now?

Author: Chris Johns 2022-11-09T23:19:53.000Z

- **Milestone** changed from %"5.2" to %"Indefinite"
- **Status** changed from *assigned* to *new*

Author: Amar Takhar 2025-09-05T02:57:45.141Z

changed the description

1.5.1.66 4053 - [libbsd] e1000 driver not working for i386 based BSP in current rtems-libbsd 5 branch (opened)

Id	4053
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-08-14T19:51:20.000Z
Updated	2025-09-19T01:45:44.819Z
Milestone	5.4
Labels	libbsd, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4053
Merges	0

Original author: soja

Cloned from [#4052](#):

Current rtems-libbsd “5” branch fails to compile the e1000 driver for i386 based BSPs.
The corresponding patches from the 5-freebsd-12 branch need to be ported to master.

Author: Chris Johns 2020-08-14T21:15:04.000Z

Original author: soja

The RTEMS 5 release is based on the 5-freebsd-12 branch for LibBSD and not the 5 branch. Maybe the issue is the 5 branch for LibBSD should have been made from 5-freebsd-12 and not master.

I have adjusted the release scripts to package the 5-freebsd-12 branch for LibBSD as a special case however it has concerned me something is not right and this ticket is now making me wonder if the 5 branch referencing master has confused things.

Author: Trac Migrate 2020-08-14T21:38:48.000Z

Original author: soja

I got that the 5-freebsd-12 branch will be the libbsd version for RTEMS 5.1. That’s why I put the patches there first to make it in time.

My impression was that the 5 branch was created from master with the goal that in a future 5.x release libbsd might be created from this one, once the next FreeBSD version has been officially released.

I wanted to make sure that if that happens, it has the same features as the 5-freebsd-12 branch. The discussion on the mailinglist was a bit confusing, so maybe I got it wrong.

Author: Chris Johns 2020-08-15T00:55:56.000Z

Original author: soja

I also have the same impression. We need a release and then we need to look after the branch for a while to understand how this will work. Having the patches on all branches makes it easier and simpler.

Author: Chris Johns 2020-08-25T04:01:05.000Z

Original author: soja

- **Milestone** changed from %”5.1” to %”5.2”

This can be resolved for 5.2

Author: Chris Johns 2022-11-09T22:19:19.000Z

Original author: soja

- **Milestone** changed from %”5.2” to %”Indefinite”

Jan please close as won't fix if this ticket is not important. Thanks.

Author: Amar Takhar 2025-09-05T02:57:43.840Z

changed the description

1.5.1.67 4012 - Porting EEMBC Coremaster Pro benchmark to rtems (opened)

Id	4012
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-06-22T08:47:06.000Z
Updated	2025-09-19T01:45:44.702Z
Milestone	5.4
Labels	priority::normal, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4012
Merges	0

Original author: ashritams

EEMBC provides coremark-pro for benchmarking SMP multi-core. I have a LEON3- Dual core processor on an FPGA. I want to benchmark it using rtems provided in gaisler website. The benchmark suite I have selected to try is Coremark-pro. After many trials in building for rtems, I am getting the following errors as attached in the files. I have also mentioned the Make command and options I am using. In coremaster pro folder, inside util, inside make I have created a sparc-gaisler-rtems.mak file.

- [rtems_query_coremaster_pro.txt](#)
- [sparc-gaisler-rtems5.mak](#)

Author: Trac Migrate 2020-06-22T08:49:19.000Z

Original author: ashritams

- **Attachment** [rtems_query_coremaster_pro.txt](#) added

Author: Trac Migrate 2020-06-22T08:50:01.000Z

Original author: ashritams

- **Attachment** [sparc-gaisler-rtems5.mak](#) added

This is the makefile included in the coremaster-pro->util->make folder

Author: Trac Migrate 2020-06-22T08:53:03.000Z

Original author: ashritams

rtems_query_coremaster_pro.txt contains the output of make command and its error.

Author: Gedare Bloom 2025-02-01T00:53:05.977Z

changed the description

Author: Gedare Bloom 2025-02-01T00:53:06.164Z

1.5.1.68 4009 - pc386: smpatomic01.exe fails (opened)

Id	4009
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-06-18T07:31:21.000Z
Updated	2025-09-19T01:45:44.528Z
Milestone	5.4
Labels	bsp, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4009
Merges	0

Original author: soja

It fails with this information:

```

1 ] === atomic or/and test case ===
2 ] worker 0 value: 1
3 ] worker 1 value: 0
4 ] atomic value: expected = 1, actual = 1
5 ] ../../../../../../smp-refex-rtems/c/src/../../../../testsuites/smptests/smpatomic01/
  ↪ init.c: 404 n - s < LONG_MAX
6 ]
7 ] ** FATAL ***

```

According to Sebastian Huber (<https://lists.rtems.org/pipermail/devel/2020-June/060102.html>):

This looks like a bug in smpatomic01. We need a better test case for atomic_thread_fence().

So maybe this needs to be linked to a more general smpatomic ticket?

Author: Trac Migrate 2020-06-18T07:31:40.000Z

Original author: soja

- **Summary** changed from *pc386: smpatomic01.exe* to *pc386: smpatomic01.exe fails*

Author: Chris Johns 2025-09-19T01:45:44.595Z

changed the description

1.5.1.69 4008 - pc386: smpclock01.exe fails (opened)

Id	4008
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-06-18T07:19:38.000Z
Updated	2025-09-19T01:45:44.332Z
Milestone	5.4
Labels	bsp, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/4008
Merges	0

Original author: soja

In the current SMP implementation for i386 the smpclock01 test will run in a deadlock. This is because atm only the CPU0 will initialize a timer and handle timer interrupts. The timer events are then distributed to the other processors using IPIs.

The test now does the following: * CPU0 disables its local interrupts and then waits on barrier A for the timer_task * timer_task unblocks barrier A (timer_task runs on CPU1) * timer_task

arms timer 1 clock tick in the future and goes to sleep for one tick * CPU0 waits on barrier B which is supposed to be unblocked by the timer event of CPU1 * CPU0 has local interrupts disabled which means no hw timer interrupts are handled and no tick events are forwarded to CPU1. CPU1 never fires the timer since it never ticks.

Any suggestions for solving this are welcome.

Author: Trac Migrate 2020-06-25T18:24:20.000Z

Original author: soja

The purpose of the test is to detect broken clock drivers. In a real SMP system, the clock interrupt should be serviced on each CPU.

Author: Chris Johns 2025-09-19T01:45:44.416Z

changed the description

1.5.1.70 4001 - Test program dl06 fails on arm (opened)

Id	4001
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-06-05T04:30:09.000Z
Updated	2025-09-19T01:45:44.135Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4001
Merges	0

Original author: sebastian.huber

Author: Amar Takhar 2025-09-05T02:57:43.215Z

changed the description

1.5.1.71 3985 - RSB PC BSP packages fail on building curl (libbsd related) (opened)

Id	3985
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2020-05-21T22:40:41.000Z
Updated	2025-09-19T01:45:44.036Z
Milestone	5.4
Labels	libbsd, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3985
Merges	0

Appears to be something with the probe for gethostbyname. It fails with this: configure:19546: i386-rtems5-gcc -o conftest -qrtems -B/home/joel/rtems-cron-5/rtems-source-builder/rtems/build/tmp/sb-1001-staging/i386-rtems5/lib/ -B/home/joel/rtems-cron-5/rtems-source-builder/rtems/build/tmp/sb-1001-staging/i386-rtems5/pc686/lib/ -specs bsp_specs -mtune=pentiumpro -march=pentium -O2 -ffunction-sections -fdata-sections -Werror-implicit-function-declaration -Wno-system-headers -isystem /home/joel/rtems-cron-5/rtems-source-builder/rtems/build/tmp/sb-1001-staging/i386-rtems5/pc686/lib/include -L/home/joel/rtems-cron-5/rtems-source-builder/rtems/build/tmp/sb-1001-staging/i386-rtems5/pc686/lib -mtune=pentiumpro -march=pentium -L/home/joel/rtems-cron-5/rtems-source-builder/rtems/build/tmp/sb-1001-ftp/curl/home/joel/rtems-cron-5/tools/5/lib conftest.c -lbsd -lm -lz -lrtemsdefaultconfig >&5 /home/joel/rtems-cron-5/rtems-source-builder/rtems/build/tmp/sb-1001-staging/bin/../lib/gcc/i386-rtems5/7.5.0/../../../../i386-rtems5/bin/ld: /home/joel/rtems-cron-5/rtems-source-builder/rtems/build/tmp/sb-1001-staging/i386-rtems5/pc686/lib/libbsd.a(rtems-bsd-init-dhcp.c.18.o):/home/joel/rtems-cron-5/rtems-source-builder/rtems/build/rtems-libbsd-vd38dbbe18e5315bf69a7c3916d71ef3838d4c20d-x86_64-linux-gnu-1/rtems-libbsd-d38dbbe18e5315bf69a7c3916d71ef3838d4c20d/build/i386-rtems5-pc686-default/../../../../rtemsbsd/include/bsp/nexus-devices.h:157: undefined reference to `_bsd_lem_pcimodule_sys_init' /home/joel/rtems-cron-5/rtems-source-builder/rtems/build/tmp/sb-1001-staging/bin/../lib/gcc/i386-rtems5/7.5.0/../../../../i386-rtems5/bin/ld: /home/joel/rtems-cron-5/rtems-source-builder/rtems/build/tmp/sb-1001-staging/i386-rtems5/pc686/lib/libbsd.a(iflib.c.18.o): in function `iflib_pseudo_register': /home/joel/rtems-cron-5/rtems-source-builder/rtems/build/rtems-libbsd-vd38dbbe18e5315bf69a7c3916d71ef3838d4c20d-x86_64-linux-gnu-1/rtems-libbsd-d38dbbe18e5315bf69a7c3916d71ef3838d4c20d/build/i386-rtems5-pc686-default/../../../../frebsd/sys/net/iflib.c:4804: undefined reference to `iflib_gen_mac' /home/joel/rtems-cron-5/rtems-source-builder/rtems/build/tmp/sb-1001-staging/bin/../lib/gcc/i386-rtems5/7.5.0/../../../../i386-rtems5/bin/ld: /home/joel/rtems-cron-5/rtems-source-builder/rtems/build/tmp/sb-1001-staging/i386-rtems5/pc686/lib/libbsd.a(iflib.c.18.o):(.rodata.iflib_pseudo_methods+0x4): undefined reference to `noop_attach' /home/joel/rtems-cron-5/rtems-source-builder/rtems/build/tmp/sb-1001-staging/bin/../lib/gcc/i386-rtems5/7.5.0/../../../../i386-rtems5/bin/ld: /home/joel/rtems-cron-5/rtems-source-builder/rtems/build/tmp/sb-1001-staging/i386-rtems5/pc686/lib/libbsd.a(iflib.c.18.o):(.rodata.iflib_pseudo_methods+0xc): undefined reference to `iflib_pseudo_detach' collect2: error: ld returned 1 exit status

Author: Joel Sherrill 2020-05-28T22:49:31.000Z

This fails when the prefix already has a toolchain in it. It works if built into a new prefix.

The test sweeper I am using builds tools, then proceeds to go over individual test cases. This results in a repeatable failure.

If I need to, I can build the BSPs into a special install point, unique to each BSP. But I suspect that building two BSPs from the same architecture into the same prefix is sufficient to trigger this condition.

Author: Trac Migrate 2020-05-29T12:55:50.000Z

The posted command line does not include a “-Wl,-gc-sections”. My guess is that you don’t have a clean environment and that some parts pick up out dated stuff. It is a know RSB issue (this is also a GCC build system issue) that existing stuff in the prefix location can influence the build. From my point of view building with stuff in the prefix is undefined behaviour in most cases.

Author: Chris Johns 2020-06-10T01:41:29.000Z

I have discovered building qemu4 on FreeBSD if I do not remove the RSB created build directory the build fails. This implies there is something left there after the build or after a failed build that needs to be cleaned away when a new build starts. I think this is something that should be looked into for 5.2 or 6.

Author: Chris Johns 2020-06-10T05:25:35.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Chris Johns 2020-07-09T01:08:56.000Z

I think this ticket can be closed. OK to do that?

Author: Chris Johns 2020-08-12T03:08:51.000Z

- **Milestone** changed from %”5.1” to %”5.2”

Move to 5.2 to look into the something being left in the build tree that effects a new build.

Author: Trac Migrate 2020-09-08T17:39:34.000Z

Not sure, but this look like the same issue hurting master and 5 branches. See [#4052](#), [#4053](#). I’ve not observed this on 5.1rc2 or 5.1 when using released RSB.

Author: Chris Johns 2022-11-09T23:13:29.000Z

- **Milestone** changed from %”5.2” to %”Indefinite”

I think this should be closed but I am not sure. I do not think it will be worked on.

Author: Amar Takhar 2025-09-05T02:57:42.603Z

changed the description

1.5.1.72 3975 - RTEMS 5 : sem_wait + sem_destroy behavior change (opened)

Id	3975
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-05-07T11:19:44.000Z
Updated	2025-09-19T01:45:43.946Z
Milestone	5.4
Labels	api::posix, old-indefinite, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3975
Merges	0

Original author: andrei.lupas

Hello,

With previous versions of RTEMS: a blocking `sem_wait()` could be broken immediately via a successful `sem_destroy` done from another thread (`sem_wait` deblocks with return code -1, and `errno == EINVAL`).

With latest RTEMS: `sem_destroy` doesn't succeed anymore, but returns `EBUSY` (since another thread executes a wait on it)

This behavior change breaks some of existing code.

Would it be possible to add an RTEMS config to allow user to select between OLD and NEW behavior ? (alternative is to move from POSIX sems to classic API and use `rtems_semaphore_flush`).

Thanks, Andrei Lupas.

Author: Joel Sherrill 2020-05-07T13:02:57.000Z

Original author: andrei.lupas

The current behavior is what is specified in the POSIX standard:

https://pubs.opengroup.org/onlinepubs/9699919799.2008edition/functions/sem_destroy.html

```
1 [EBUSY]
2 There are currently processes blocked on the semaphore.
```

It is a shame that the signature does not have an attribute structure, that would make it easy to at least add the behavior option at the API level. This signature does not give any room for change:

```
1 int sem_init(sem_t *sem, int pshared, unsigned value);
```

Adding a flush operation to the POSIX semaphores could be an option but `sem_wait()` is not defined to return any `errno` values which make sense for a flush. But if `sem_flush_np()` were added, then using another `errno` to indicate it was flushed by a non-portable (e.g. `_np`) method is at least an option.

Another option is to add a `sem_XXX_np` method to set the “allow delete when blocked threads” internal attribute. In this case, the threads unblocked by deleting the semaphore could return `EINVAL` like other POSIX methods do when the object id is invalid.

I’m just offering options within the space of the POSIX standard. The second seems like a cleaner direct solution to your problem. This is a counting semaphore and there is no concept of a “holder” as with a mutex. Besides threads waiting on a resource, do not hold the resource.

Hoping others will chime in.

Author: Trac Migrate 2020-05-07T18:25:05.000Z

Original author: andrei.lupas

Indeed, behavior is according to POSIX spec, but in the “undefined” area “The effect of destroying a semaphore upon which other threads are currently blocked is undefined.” In this case, the “undefined” behavior changed from `SUCCESS` to `error:EBUSY`, and this impacts some existing apps. On short term, I suppose I need to move to classic API semaphores. Thanks a lot for the prompt feedback. Andrei.

Author: Joel Sherrill 2020-05-07T18:29:42.000Z

Original author: andrei.lupas

Replying to [andrei.lupas](#):

Indeed, behavior is according to POSIX spec, but in the “undefined” area “The effect of destroying a semaphore upon which other threads are currently blocked is undefined.” In this case, the “undefined” behavior changed from `SUCCESS` to `error:EBUSY`, and this impacts some existing apps.

Can you cite where you found that undefined behavior citation? I looked at the Change History section for the methods I thought this would be in and don’t see it.

Knowing when the behavior changed and being able to cite something would lend strength to providing a way to get the alternative behavior. I lean to it changing on a per semaphore instance basis rather than a single flag changing it for all.

On short term, I suppose I need to move to classic API semaphores. Thanks a lot for the prompt feedback.

No problem.

Andrei.

Author: Trac Migrate 2020-05-08T04:51:39.000Z

Original author: andrei.lupas

The “The effect of destroying a semaphore upon which other threads are currently blocked is undefined.” is the current `sem_destroy()` description. The POSIX semaphores are now self-contained. This means the storage space is provided and maintained by the user. Destruction of a semaphore in use could indicate that someone is trying to use an object while it is destroyed (e.g. deallocated).

What we could do (since “The effect of destroying a semaphore upon which other threads are currently blocked is undefined.”) is to flush the semaphore so that callers get woken up with `EINVAL`, we destroy the object and return `EBUSY`.

Author: Trac Migrate 2020-05-08T06:09:57.000Z

Original author: andrei.lupas

Replying to [Sebastian Huber](#): ...

What we could do (since “The effect of destroying a semaphore upon which other threads are currently blocked is undefined.”) is to flush the semaphore so that callers get woken up with `EINVAL`, we destroy the object and return `EBUSY`.

Sounds good to me. Thanks.

Author: Trac Migrate 2020-05-08T06:11:51.000Z

Original author: andrei.lupas

If you would like to get this changed, then please send a patch to devel@rtems.org which includes changes in the test suite.

Author: Chris Johns 2020-05-18T06:57:01.000Z

Original author: andrei.lupas

Can someone please update the milestone for this ticket?

Author: Trac Migrate 2020-05-18T07:06:18.000Z

Original author: andrei.lupas

- **Milestone** set to %”5.2”

Author: Chris Johns 2022-11-09T22:16:26.000Z

Original author: andrei.lupas

- **Milestone** changed from %”5.2” to %”Indefinite”

Author: Amar Takhar 2025-09-05T02:57:42.358Z

changed the description

1.5.1.73 3858 - PC386 BSP serial console outputs garbage on real hardware (opened)

Id	3858
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-01-29T21:56:31.000Z
Updated	2025-09-19T01:45:43.377Z
Milestone	5.4
Labels	bsp, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3858
Merges	0

Original author: Lou.Woods

Problem description

When the RTEMS ticker test, possibly others, is started with the `--console=/dev/com1` command line argument the output to COM1 using the pc386 BSP on real hardware the console output is invalid/garbage characters instead of the expected ticker output. The serial output looks like a baud rate mismatch.

Ticker works as expected when left to output to the VGA console.

Test configuration

1.5.1.73.2.1 Hardware tested

Winsystems EBC-855 (Intel® Celeron-M ZC Dothan 1GHz) Dell Optiplex 755 (Intel Core 2 Duo)

1.5.1.73.2.2 Hardware configuration

*The PC386 target COM1 is connected to a Raspberry Pi 3 with a Keyspan RS232 serial to USB converter. (This hardware combination works with other boards) *The PC386 is connected via a network to the Raspberry Pi 3 running a TFTP server that provides the boot images.

1.5.1.73.2.3 Software configuration

- RTEMS Master e22554535796fc29a7ed7c5e2338128e324a621d
- RTEMS configuration

```
1 ./rtems/configure --target=i386-rtems5 --enable-rtemsbsp=pc386 IDE_USE_PRIMARY_
  ↳ INTERFACE=0 --prefix=/home/woods/pc386/bsp-install/ --disable-networking --
  ↳ enable-posix --disable-smp --disable-multiprocessing --enable-tests --enable-
  ↳ cxx --enable-maintainer-mode
```

- The BSP defaults COM1 to 9600bps 8-N-1 with no flow control.
- The Raspberry Pi serial host is running Debian (Raspian) Stretch
- The executable is booted from the Raspberry Pi TFTP host by chain loading RTEMS via IPXE

1.5.1.73.2.4 General Notes

The test setup's serial connection was verified to work using the Optiplex 755 running Windows and the same hardware components with a simple Foxterm serial session.

1.5.1.73.2.5 Things attempted one at a time

- sweeping the baud rate on the serial host while holding the board at 9600 8N1
- trying different baud rates in lock-step, target and serial host.
- various combination of hardware flow control, parity, word size, stop bits.
- Winsystems board talking to a Windows PC running Foxterm.
- Running RTEMS 4.11 branch with current i386 toolchain – exe hangs; currently haven't tracked down the error.
- COM2 port on the Winsystems board.
- Changing the clock rate for the baud-rate divisor in RTEMS
- 3 wire serial communications with RX, TX, and GND

Author: Chris Johns 2020-01-30T00:06:34.000Z

Original author: Lou.Woods

The PC uses the shared driver. Was there a patch for this code on the devel list for the Pi. Could this be related?

Author: Trac Migrate 2020-01-30T16:59:07.000Z

Original author: Lou.Woods

Unless I'm missing it, I don't believe it is directly related. The commit log for the raspberry pi console update didn't modify the shared code.

Author: Joel Sherrill 2020-01-30T17:25:58.000Z

Original author: Lou.Woods

Any chance this change broke it and no one noticed?

commit 143c8d0d948b31f7c4b40e3d7eb7ebe0b80b4915 Author: Sebastian Huber
<sebastian.huber@embedded-brains.de> Date: Wed Oct 17 09:43:55 2018 +0200

serial/ns16550: Fix precision clock synthesizer

The precision clock synthesizer support broke the driver on the QorIQ P1020. On this device the Alternate Function Register is accessed with DLAB == 1 instead of the FIFO Control Register (FCR). Restructure the code to account for this.

Author: Chris Johns 2025-09-19T01:45:43.469Z

changed the description

1.5.1.74 3825 - RSB prefix argument incorrectly processes tilde (opened)

Id	3825
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2019-11-22T16:26:03.000Z
Updated	2025-09-19T01:45:43.286Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3825
Merges	0

If a ~ is used in -prefix to the source builder, then it doesn't get transformed into \${HOME}, you will end up with the tools installed into a ~ directory under rtems-source-builder/rtems if you are building the tools.

Author: Chris Johns 2019-11-22T22:40:33.000Z

- **Status** changed from *assigned* to *new*

Author: Chris Johns 2019-12-12T17:58:32.000Z

- **Milestone** changed from %"5.1" to %"Indefinite"

Author: Amar Takhar 2024-04-25T20:47:29.881Z

changed the description

1.5.1.75 3819 - Consider FAA AC 20-148 - Reusable Software Components in RTEMS Software Engineering manual (opened)

Id	3819
State	opened
Type	ISSUE
Author	Trac Migrate
Created	2019-11-08T07:05:34.000Z
Updated	2025-09-19T01:45:43.094Z
Milestone	5.4
Labels	priority::normal, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3819
Merges	0

Original author: sebastian.huber

Review of the Software Requirements Engineering chapter for the RTEMS Software Engineering manual suggested that we should take the [FAA AC 20-148 - Reusable Software Components](#) into account:

<https://lists.rtems.org/pipermail/devel/2019-November/056027.html>

```

1 +Resources and Performance
2 +-----
3 +
4 +Normally, resource and performance requirements are formulated like this:
5 +
6 +* The resource U shall need less than V storage units.
7 +
8 +* The operation Y shall complete within X time units.
9 +
10 +Such statements are difficult to make for a software product like RTEMS which
11 +runs on many different target platforms in various configurations. So, the
12 +performance requirements of RTEMS shall be stated in terms of benchmarks. The
13 +benchmarks are run on the project-specific target platform and configuration.
14 +The results obtained by the benchmark runs are reported in a human readable
15 +presentation. The application designer can then use the benchmark results to
16 +determine if its system performance requirements are met. The benchmarks shall
17 +be executed under different environment conditions, e.g. varying cache states
18 +(dirty, empty, valid) and system bus load generated by other processors. The
19 +application designer shall have the ability to add additional environment
20 +conditions, e.g. system bus load by DMA engines or different system bus
21 +arbitration schemes.
22 +
23 +To catch resource and performance regressions via test suite runs there shall be

```

(continues on next page)

(continued from previous page)

24 +a means to specify threshold values **for** the measured quantities. The threshold
 25 +values should be provided **for** each validation platform. How this can be done
 26 +**and if** the threshold values are maintained by the RTEMS Project **is** subject to
 27 +discussion.

28

29 We focused on big-O **and** whether methods were constant time, bounded, **or** $O(n)$
 30 when designing. Perhaps the focus could be there. But this **is** a design goal **for**
 31 **↪all**
 32 of RTEMS **and** something we would document. Nothing to do **except** a general
 33 design goal.

34 This section also sounds like part of what **is** required by a systems integrator
 35 when leveraging what the FAA calls a Reusable Software Component:

36

37 [https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.
 38 ↪information/documentID/22207](https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/22207)

39 You get credit **for** what's common and have to fill in details for your system.

Author: Trac Migrate 2019-12-19T08:07:34.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.1" to %"6.1"

Author: Trac Migrate 2022-11-30T08:54:45.000Z

Original author: sebastian.huber

- **Milestone** changed from %"6.1" to %"7.1"

Author: Joel Sherrill 2025-09-18T23:59:32.524Z

changed the description

Author: Joel Sherrill 2025-09-18T23:59:32.575Z

unassigned @tracmigrate

1.5.1.76 3801 - Rtems 5 BSP Test Failing (opened)

Id	3801
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-10-15T09:47:17.000Z
Updated	2025-09-19T01:45:42.985Z
Milestone	5.4
Labels	priority::normal, tickettype::defect, tool::test, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3801
Merges	0

Original author: nigelwsewell

When following the instructions in:

<https://docs.rtems.org/branches/master/user/start/bsp-test.html> the last command fails:

```
1 $rtems-test --rtems-bsp=erc32 --rtems-tools=$HOME/quick-start/rtems/5 .
```

This could (should?) be replaced by:

```
1 $rtems-test --rtems-bsp=erc32-sis --rtems-tools=$HOME/quick-start/rtems/5 .
```

Further discussion & information found here:

<https://stackoverflow.com/questions/58348878/rtems-5-bsp-test-failing>

Author: Amar Takhar 2024-04-25T20:47:28.937Z

changed the description

1.5.1.77 3795 - RTEMS Source Builder | README | Broken link (opened)

Id	3795
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-09-10T21:49:28.000Z
Updated	2025-09-19T01:45:42.880Z
Milestone	5.4
Labels	priority::normal, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3795
Merges	0

Original author: silvawp

The RTEMS source builder README file refers to wrong link * <https://docs.rtems.org/branches/master/rsb/index.html>).

It should be: * <https://docs.rtems.org/branches/master/user/rsb/index.html>

instead

- [0001-Fix-broken-link.patch](#)

Author: Trac Migrate	2019-09-10T21:49:52.000Z

Original author: silvawp

- **Attachment** [0001-Fix-broken-link.patch](#) added

Author: Amar Takhar	2024-04-25T20:47:27.539Z

changed the description

1.5.1.78 3790 - Terminal should block in default config case (opened)

Id	3790
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-08-23T08:54:24.000Z
Updated	2025-09-19T01:45:42.069Z
Milestone	5.4
Labels	api::posix, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3790
Merges	0

Original author: andy89.org

Terminal should block in default config case

expected behaviour

Open terminal without configure over tcsetattr. read block until new line ICANON is in termios.c_lflag set in default case.

undesired behaviour

Open terminal without configure over tcsetattr. read return with return value 0. After reset the default settings with tcgetattr and tcsetattr read shown expected behavior (see Example Code).

target hardware

TMS570 with bugfixes see Bug [#3789](#)

toolchain version

Modified GCC, binutils and gdb build script to build armeb compiler build with RTEMS Source Builder master(see patches for RTEMS Soucre Builder) I need a ARM Compiler with Big Endian Support as default for TMS570 see Bug [#3789](#)

configuration options for bsp

```
../rtems/configure      '-prefix=[bsp      path]/bsp/armeb-rtems5'      '-host=arm-rtems5'
'-target=arm-rtems5'    '-enable-posix'    '-enable-rtems-debug'    '-disable-tests'    '-disable-
networking'            '-enable-rtemsbsp=tms570ls3137_hdk'            'CC_FOR_TARGET=armeb-
rtems5-gcc'            'CXX_FOR_TARGET=armeb-rtem5-gcc'            'AR=armeb-rtems5-ar'
'TMS570_USE_HWINIT_STARTUP=1'
```

Test on master commit RTEMS (4a9a58ea8ad75248af5876c01ef654f9bc59c312) with patches for TMS570 see bug [#...](#)

Example source code

See test.tar.gz

Bug Fix

Add initialization for wait variable in tty struct in rtems_termios_open_tty function see patch

Author: Trac Migrate 2019-08-23T08:54:51.000Z

Original author: andy89.org

I can't upload Attachments the patches and files can be found under: <https://www.cs.hs-rm.de/~werner/rtems/bugreport/>

Author: Trac Migrate 2019-08-26T05:39:17.000Z

Original author: andy89.org

I am not sure if default Termios settings are specified by POSIX or Linux. Do you have a reference?

Attaching patches should work. What was the error message?

Author: Trac Migrate 2019-08-26T07:49:55.000Z

Original author: andy89.org

Yes the default terminal settings are not defined but is defined the terminal must be initialized. If your Implementation set a default settings this settings should work.

At section 11.1.1 of POSIX Spec[1] is defined: Opening a modem or similar piece of equipment connected by a serial line. In this case, the terminal parameters (see Section 11.2, on page 205) may be initialized to default settings by the implementation in between the last close of the device by any process and the next open of the device, or they may persist from one use to the next. The terminal parameters can be set to values that ensure the terminal behaves in a conforming manner by means of the `O_TTY_INIT` open flag when opening a terminal device that is not already open in any process, or by executing the `stty` utility with the operand `sane`. In the Linux kernel every read check the settings and configure the timeout[2]. The default settings in Linux kernel are defined here[3] and differiert to your settings. There was no error message the read call return with 0. For a normal file this mean End-of-file. A return value of 0 is not specified in Canonical mode by POSIX for spezial files.

[1] IEEE Std. 1003.1 Standard for Information Technology—Portable Operating System Interface (POSIX) - 2016 Edition [2] https://elixir.bootlin.com/linux/v5.2.10/source/drivers/tty/n_tty.c#L2132 [3] https://elixir.bootlin.com/linux/v5.2.10/source/drivers/tty/tty_io.c#L121

Author: Trac Migrate 2019-08-27T05:02:38.000Z

Original author: andy89.org

I am not sure if I understood the report correctly. The bug is that you open the device and ICANON is set, but it doesn't behave like this?

Author: Trac Migrate 2019-08-27T07:42:55.000Z

Original author: andy89.org

Yes, it behave like the device is in polling mode (`~ICANON`, `VMIN=0`, `VTIME=0`). Start my small test Application after setting the default setting again read wait until newline or the buffer is full (Canonical mode).

Author: Trac Migrate 2019-08-27T07:48:40.000Z

Original author: andy89.org

I have little time to take care of this ticket. I think the first step would be to add a generic test case to the testsuites/libtests/termios* tests or add a new test program which reproduces the problem on a simulator BSP, e.g. `sparc/erc32`.

Author: Chris Johns 2025-09-19T01:45:42.166Z

changed the description

1.5.1.79 3788 - Documentation of Cygwin Packages (opened)

Id	3788
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-08-20T22:07:53.000Z
Updated	2025-09-19T01:45:41.894Z
Milestone	5.4
Labels	priority::low, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3788
Merges	0

Original author: jeff.mayes

Hi, The documentation of Cygwin, shown here <https://docs.rtems.org/branches/master/user/hosts/windows.html#cygwin>, needs to be updated. a) python2-devel should be added to the list. b) mingw-zlib-devel should be removed. At least, I can't find it in the Cygwin Setup repositories.

Author: Chris Johns 2025-09-19T01:45:41.954Z

changed the description

1.5.1.80 3778 - POSIX Timers Do Not Support SIGEV_THREAD (opened)

Id	3778
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2019-08-05T18:46:19.000Z
Updated	2025-09-19T01:45:41.800Z
Milestone	5.4
Labels	api::posix, old-indefinite, posix::compliance, priority::normal, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3778
Merges	0

SIGEV_THREAD in <http://pubs.opengroup.org/onlinepubs/9699919799/> is not supported by RTEMS currently.

The Linux specific SIGEV_THREAD_ID is similarly not supported.

Author: Amar Takhar 2024-04-25T20:47:24.143Z

changed the description

1.5.1.81 3759 - Add rtems-test support for atsam BSP (opened)

Id	3759
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-06-13T14:02:12.000Z
Updated	2025-09-19T01:45:41.710Z
Milestone	5.4
Labels	arch:arm, old-indefinite, priority::high, priority::normal, ticket-type::project, tool, version::4.11, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3759
Merges	0

Original author: xispa

Hi,

I am currently trying to install and test RTEMS on an ATMEL SAMV71Q21 chip. In order to do so, I carefully followed the instructions provided in the user manual (<https://docs.rtems.org/branches/master/user/start/host.html>).

The doc aims at running RTEMS on a SPARC architecture, whereas in my case, I try to run it on an ARM. Considering this, all commands featuring “sparc” were replaced by “arm” while installing the tool suite.

After bootstrapping RTEMS’s sources, I configured the BSP using the command :

```
$HOME/quick-start/src/rtems/configure --prefix=$HOME/quick-start/rtems/5 --enable-maintainer-mode --target=arm-rtems5 --enable-rtemsbsp=atsamv --enable-tests
```

then built and installed the BSP. These stages seem to work properly as I do not get any errors or warnings.

I am stuck when testing the BSP using the command :

```
rtems-test --rtems-bsp=? --rtems-tools=$HOME/quick-start/rtems/5 .
```

What should I specify in --rtems-bsp option considering that I want RTEMS to run on a SAMV71Q21 ? Is there anything else that I have to do before testing the BSP ?

Kind regards,

Author: Trac Migrate 2019-06-14T09:28:04.000Z

Original author: xispa

- **Milestone** changed from %”4.11.3” to %”Indefinite”
- **Owner** set to Needs Funding
- **Priority** changed from ~”high” to ~”normal”
- **Status** changed from *new* to *assigned*

- **Summary** changed from *Running RTEMS on SAMV71Q21* to *Add rtems-test support for atsam BSP*
- **Version** changed from ~"4.11" to ~"5"

There is no support for this BSP in rtems-test. You need a debugger or other tools to load the application to the target.

Author: Amar Takhar 2025-09-05T03:01:15.217Z

changed the description

1.5.1.82 3757 - Alternative memory allocators (opened)

Id	3757
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-06-08T08:38:26.000Z
Updated	2025-09-19T01:45:41.619Z
Milestone	5.4
Labels	old-indefinite, priority::low, rtems::score, tickettype::project, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3757
Merges	0

Original author: sebastian.huber

The current memory allocator in RTEMS uses a first fit strategy. This is an excellent allocator if you only allocate memory and never free it. However, for real dynamic workloads which allocate and free memory throughout the application run-time this strategy is subject to

- unpredictable allocation times (linear search through free blocks),
- memory fragmentation.

The global lock delivers bad performance on SMP systems. RTEMS applications run on a broad range of targets, from uniprocessor 64KiB RAM to SMP systems with more than 4GiB of RAM. So, the allocator should be configurable. Link-time configuration should take into account that some applications never free memory. They should not be forced to link in the free support.

Alternative allocator implementations are:

- [Original TLSF](#)
- [BSD licensed TLSF](#)
- [jemalloc](#)
- `kernel malloc based on UMA <../wikis/FreeBSD>`_ (https://github.com/freebsd/freebsd/blob/master/sys/kern/kern_malloc.c)

Author: Chris Johns 2022-06-14T06:36:23.000Z

Original author: sebastian.huber

- **Version** ~”5” deleted

Author: Chris Johns 2022-06-14T07:11:14.000Z

Original author: sebastian.huber

The allocator has to provide an aligned allocation call. This can also be called a `_boundary` **constrained** call.

Author: Amar Takhar 2025-09-05T02:57:40.627Z

changed the description

1.5.1.83 3752 - Strong APA Scheduler Undocumented (opened)

Id	3752
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2019-05-21T15:14:12.000Z
Updated	2025-09-19T01:45:41.521Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3752
Merges	0

The file `confdefs.h` has `CONFIGURE_SCHEDULER_STRONG_APA` but there is no documentation on this scheduler or this configuration parameter.

Author: Trac Migrate 2019-12-19T08:07:34.000Z

- **Milestone** changed from %”5.1” to %”6.1”

Author: Trac Migrate 2022-09-08T07:39:22.000Z

- **Milestone** changed from %”6.1” to %”Indefinite”
- **Owner** set to Needs Funding

The configuration option is now documented.

Author: Amar Takhar 2025-09-05T02:57:40.430Z

changed the description

1.5.1.84 3744 - A new Constant Bandwidth Server (CBS) version with reduced limitations. (opened)

Id	3744
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-05-11T16:56:41.000Z
Updated	2025-09-19T01:45:41.333Z
Milestone	5.4
Labels	priority::normal, rtems::score, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3744
Merges	0

Original author: jollp

RTEMS provides a version of the CBS scheduler which does not include the following features:

- Ability to attach more than one task to a Server;
- Budget (allowed computation time) replenishment when a task exceeded its previous budget;
- The served task is assigned with the ongoing server's priority.

This ticket presents a new CBS version where all the rules described by Abeni and Buttazzo are correctly implemented. This new version differs from the original CBS implementation on the following aspects:

1. A server can now serve several tasks; 1. When a served task exceeds its reserved capacity, its budget is replenished and the server's deadline updated and assigned as the new task priority; 1. The callback function is removed due to the modification performed on the CBS behavior when a served task exceeds its reserved computational time; 1. A task is killed when detached from a server since this new version only allows soft real-time tasks to run under Reservation-Based Context.

New Test Cases were developed and are directly included in the patch that will soon be attached.

Author: Trac Migrate 2019-05-11T16:59:20.000Z

Original author: jollp

- Cc added @jollp@isep.ipp.pt

Author: Chris Johns 2025-09-19T01:45:41.400Z

changed the description

1.5.1.85 3740 - Libld does not load incrementally linked object file (opened)

Id	3740
State	opened
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2019-04-26T05:21:48.000Z
Updated	2025-09-19T01:45:41.225Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, version::5, version::7
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3740
Merges	1

If separate object files have the same local symbol and are incrementally linked libdl only uses the first symbol found.

The issue has been raised by Peter in a post to devel:

<https://lists.rtems.org/pipermail/devel/2019-April/025623.html>

The issue can be shown with:

```

1 $ cat foo.c
2 #include <stdio.h>
3
4 extern void foo(void);
5 void foo(void)
6 {
7     printf("FOO %s\n", "Foo 1");
8 }
9 $ cat bar.c
10 #include <stdio.h>
11
12 extern void bar(void);
13 void bar(void)
14 {
15     printf("BAR %s\n", "Bar 1");
16 }
17 $ arm-rtems5-gcc -march=armv7-a -mthumb -c foo.c
18 $ arm-rtems5-gcc -march=armv7-a -mthumb -c bar.c
19 $ arm-rtems5-ld -r -o fubar bar.o foo.o
20 $ arm-rtems5-readelf -s fubar
21
22 Symbol table '.symtab' contains 20 entries:
23 Num:      Value      Size Type      Bind      Vis      Ndx Name
24 0: 00000000      0 NOTYPE    LOCAL     DEFAULT   UND
25 1: 00000000      0 SECTION   LOCAL     DEFAULT    1
26 2: 00000000      0 SECTION   LOCAL     DEFAULT    3
27 3: 00000000      0 SECTION   LOCAL     DEFAULT    4
28 4: 00000000      0 SECTION   LOCAL     DEFAULT    5

```

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```

29 5: 00000000      0 SECTION LOCAL  DEFAULT    6
30 6: 00000000      0 SECTION LOCAL  DEFAULT    7
31 7: 00000000      0 FILE     LOCAL  DEFAULT  ABS bar.c
32 8: 00000000      0 NOTYPE   LOCAL  DEFAULT    3 $d
33 9: 00000000      0 NOTYPE   LOCAL  DEFAULT    3 .LC0
34 10: 00000008      0 NOTYPE   LOCAL  DEFAULT    3 .LC1
35 11: 00000000      0 NOTYPE   LOCAL  DEFAULT    1 $t
36 12: 00000000      0 FILE     LOCAL  DEFAULT  ABS foo.c
37 13: 00000010      0 NOTYPE   LOCAL  DEFAULT    3 $d
38 14: 00000010      0 NOTYPE   LOCAL  DEFAULT    3 .LC0
39 15: 00000018      0 NOTYPE   LOCAL  DEFAULT    3 .LC1
40 16: 0000001c      0 NOTYPE   LOCAL  DEFAULT    1 $t
41 17: 00000000      0 NOTYPE   GLOBAL DEFAULT  UND printf
42 18: 0000001d     28 FUNC     GLOBAL DEFAULT    1 foo
43 19: 00000001     28 FUNC     GLOBAL DEFAULT    1 bar
44 $ arm-rtems5-objdump --disassemble --source fubar
45
46 fubar:      file format elf32-littlearm
47
48 Disassembly of section .text:
49
50 00000000 <bar>:
51 0: b580          push    {r7, lr}
52 2: af00          add     r7, sp, #0
53 4: f240 0100     movw    r1, #0
54 8: f2c0 0100     movt    r1, #0
55 c: f240 0000     movw    r0, #0
56 10: f2c0 0000     movt    r0, #0
57 14: f7ff fffe     bl      0 <printf>
58 18: bf00          nop
59 1a: bd80          pop     {r7, pc}
60
61 0000001c <foo>:
62 1c: b580          push    {r7, lr}
63 1e: af00          add     r7, sp, #0
64 20: f240 0100     movw    r1, #0
65 24: f2c0 0100     movt    r1, #0
66 28: f240 0000     movw    r0, #0
67 2c: f2c0 0000     movt    r0, #0
68 30: f7ff fffe     bl      0 <printf>
69 34: bf00          nop
70 36: bd80          pop     {r7, pc}

```

- [0001-dl01-Added-incrementally-linked-object-test-case.patch](#)
- [0001-fix-rtems_rtl_elf_find_symbol-bug-when-use-dynamic-l.patch](#)
- [dl-load.c](#)
- [dl-o1.c](#)
- [dl-o2.c](#)

Author: Chris Johns 2019-04-26T21:10:02.000Z

I have updated dl01 adding the example code and build PowerPC and ARM bsps. The PowerPC BSP works while the ARM BSP does not work.

The results for the psim BSP is:

```

1 $ rtems-run --rtems-bsp=psim `find . -name dl01.exe`
2 RTEMS Testing - Run, 5.0.not_released
3 Command Line: /opt/work/rtems/5/bin/rtems-run --rtems-bsp=psim ./
   ↪ powerpc-rtems5/c/psim/testsuites/libtests/dl01.exe
4 Python: 3.6.6 (default, Oct 2 2018, 01:22:29) [GCC 4.2.1 Compatible
   ↪ FreeBSD Clang 6.0.0 (tags/RELEASE_600/final 326565)]
5 Host: FreeBSD-12.0-RELEASE-p3-amd64-64bit-ELF (FreeBSD ruru 12.0-
   ↪ RELEASE-p3 FreeBSD 12.0-RELEASE-p3 GENERIC amd64 amd64)
6 OpenPIC Version ? (1 CPUs and 1 IRQ sources) at 0x202571776
7 OpenPIC Vendor 0 (Unknown), Device 0 (Unknown), Stepping 0
8 Overriding NumSources (1) from configuration with 16
9 OpenPIC timer frequency is not set
10 BATs must not overlap; area 0x08000000..0x09000000 hits DBAT 0
11 BATs must not overlap; area 0x0c000000..0x0d000000 hits DBAT 0
12 *** BEGIN OF TEST libdl (RTL) 1 ***
13 *** TEST VERSION: 5.0.0.be50969881b97180bf4fc1e2975efd41169e08bb-
   ↪ modified
14 *** TEST STATE: EXPECTED-PASS
15 *** TEST BUILD: RTEMS_POSIX_API
16 *** TEST TOOLS: 7.4.0 20181206 (RTEMS 5, RSB
   ↪ d9f49fc117422ea4b039cebc668191e9c07fde25, Newlib 1d35a003f)
17 load: /dl01-o1.o
18 handle: 0x6f668 loaded
19 Loaded module: argc:2 [/opt/work/chris/rtems/kernel/rtems.git/c/src/...
   ↪ ./testsuites/libtests/dl01/dl-o1.c]
20 0: Line 1
21 1: Line 2
22 Loaded module: argc:3 [/opt/work/chris/rtems/kernel/rtems.git/c/src/...
   ↪ ./testsuites/libtests/dl01/dl-o1.c]
23 0: Call 2, line 1
24 1: Call 2, line 2
25 2: Call 2, line 3
26 handle: 0x6f668 closed
27 load: /dl01-o2o3.o
28 handle: 0x6f668 loaded
29 FOO Foo 1
30 BAR Bar 1
31 handle: 0x6f668 closed
32 *** END OF TEST libdl (RTL) 1 ***
33 *** FATAL ***
34 fatal source: 5 (RTEMS_FATAL_SOURCE_EXIT)
35 fatal code: 0 (0x00000000)
36 RTEMS version: 5.0.0.be50969881b97180bf4fc1e2975efd41169e08bb-modified

```

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```

37 RTEMS tools: 7.4.0 20181206 (RTEMS 5, RSB_
   ↪d9f49fc117422ea4b039cebc668191e9c07fde25, Newlib 1d35a003f)
38 executing thread ID: 0x08a010001
39 executing thread name: UI1
40 Run time      : 0:00:01.032580

```

The results for the xilinx_zynq_a9_qemu is:

```

1 $ rtems-run --rtems-bsp=xilinx_zynq_a9_qemu `find . -name dl01.exe`
2 RTEMS Testing - Run, 5.0.not_released
3 Command Line: /opt/work/rtems/5/bin/rtems-run --rtems-bsp=xilinx_zynq_
   ↪a9_qemu ./arm-rtems5/c/xilinx_zynq_a9_qemu/testsuites/libtests/dl01.
   ↪exe
4 Python: 3.6.6 (default, Oct  2 2018, 01:22:29) [GCC 4.2.1 Compatible_
   ↪FreeBSD Clang 6.0.0 (tags/RELEASE_600/final 326565)]
5 Host: FreeBSD-12.0-RELEASE-p3-amd64-64bit-ELF (FreeBSD ruru 12.0-
   ↪RELEASE-p3 FreeBSD 12.0-RELEASE-p3 GENERIC amd64 amd64)
6
7 (process:90678): GLib-WARNING **: 07:02:48.995: gmem.c:490: custom_
   ↪memory allocation vtable not supported
8 Warning: nic cadence_gem.0 has no peer
9 Warning: nic cadence_gem.1 has no peer
10
11
12 *** BEGIN OF TEST libdl (RTL) 1 ***
13 *** TEST VERSION: 5.0.0.be50969881b97180bf4fc1e2975efd41169e08bb-
   ↪modified
14 *** TEST STATE: EXPECTED-PASS
15 *** TEST BUILD: RTEMS_POSIX_API
16 *** TEST TOOLS: 7.4.0 20181206 (RTEMS 5, RSB_
   ↪d9f49fc117422ea4b039cebc668191e9c07fde25, Newlib 1d35a003f)
17 load: /dl01-o1.o
18 handle: 0x117c98 loaded
19 Loaded module: argc:2 [/opt/work/chris/rtems/kernel/rtems.git/c/src/...
   ↪./testsuites/libtests/dl01/dl-o1.c]
20 0: Line 1
21 1: Line 2
22 Loaded module: argc:3 [/opt/work/chris/rtems/kernel/rtems.git/c/src/...
   ↪./testsuites/libtests/dl01/dl-o1.c]
23 0: Call 2, line 1
24 1: Call 2, line 2
25 2: Call 2, line 3
26 handle: 0x117c98 closed
27 load: /dl01-o2o3.o
28 handle: 0x117c98 loaded
29 FOO Foo 1
30 FOO Foo 1
31 handle: 0x117c98 closed
32

```

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```

33 *** END OF TEST libdl (RTL) 1 ***
34
35
36 *** FATAL ***
37 fatal source: 5 (RTEMS_FATAL_SOURCE_EXIT)
38 fatal code: 0 (0x00000000)
39 RTEMS version: 5.0.0.be50969881b97180bf4fc1e2975efd41169e08bb-modified
40 RTEMS tools: 7.4.0 20181206 (RTEMS 5, RSB_
↳d9f49fc117422ea4b039cebc668191e9c07fde25, Newlib 1d35a003f)
41 executing thread ID: 0x08a010001
42 executing thread name: UI1
43
44 Run time      : 0:00:01.018158

```

Author: Joel Sherrill 2019-09-25T18:51:23.000Z

Unless someone can point to a failure I am missing, I think this should be closed. I would appreciate Chris or Peter closing this if my testing below demonstrates this is no longer an issue.

Since Chris says this test case has been added to dl01. dl01 passes on xilinx_zynq_a9_qemu with results posted at <https://lists.rtems.org/pipermail/build/2019-September/003639.html>

For reference, this is the Zynq output which I think is correct:

```

1 *** BEGIN OF TEST libdl (RTL) 1 ***
2 *** TEST VERSION: 5.0.0.8798372261ed1df999bc9f4f3f0be0a230480041
3 *** TEST STATE: EXPECTED-PASS
4 *** TEST BUILD: RTEMS_POSIX_API
5 *** TEST TOOLS: 7.4.1 20190514 (RTEMS 5, RSB_
↳83e0c3ddb8b3474806c9dad4efe4ad6afb0bb937, Newlib 6661a67)
6 load: /dl01-o1.o
7 handle: 0x1124b8 loaded
8 Loaded module: argc:2 [../../../../rtems/c/src/../../../../testsuites/
↳libtests/dl01/dl-o1.c]
9 0: Line 1
10 1: Line 2
11 Loaded module: argc:3 [../../../../rtems/c/src/../../../../testsuites/
↳libtests/dl01/dl-o1.c]
12 0: Call 2, line 1
13 1: Call 2, line 2
14 2: Call 2, line 3
15 handle: 0x1124b8 closed
16
17 *** END OF TEST libdl (RTL) 1 ***
18
19
20 *** FATAL ***

```

(continues on next page)

(continued from previous page)

```

21 fatal source: 5 (RTEMS_FATAL_SOURCE_EXIT)
22 fatal code: 0 (0x00000000)
23 RTEMS version: 5.0.0.8798372261ed1df999bc9f4f3f0be0a230480041
24 RTEMS tools: 7.4.1 20190514 (RTEMS 5, RSB_
    ↪83e0c3ddb8b3474806c9dad4efe4ad6afb0bb937, Newlib 6661a67)
25 executing thread ID: 0x08a010001
26 executing thread name: UI1

```

Can this be closed?

Author: Trac Migrate 2019-09-29T02:02:40.000Z

no, it still has a failure, not libtests/dl01, but the test example in the mail <https://lists.rtems.org/pipermail/devel/2019-April/025623.html>

I think I have found the bug, but no one notice the mail I ever wrote. Would you please have a look at the mail <https://lists.rtems.org/pipermail/devel/2019-September/055590.html>

Author: Chris Johns 2019-09-29T05:13:32.000Z

Replying to [jameszsj](#):

no, it still has a failure, not libtests/dl01, but the test example in the mail <https://lists.rtems.org/pipermail/devel/2019-April/025623.html> I think I have found the bug, but no one notice the mail I ever wrote. Would you please have a look at the mail <https://lists.rtems.org/pipermail/devel/2019-September/055590.html>

Thank you for updating the ticket. If you could create a patch for the code and the test case and attach it here it would be a great help.

Author: Trac Migrate 2019-09-29T08:13:58.000Z

- Attachment [dl-o1.c](#) added

Author: Trac Migrate 2019-09-29T08:14:12.000Z

- Attachment [dl-o2.c](#) added

Author: Trac Migrate 2019-09-29T08:14:30.000Z

- Attachment [dl-load.c](#) added

Author: Trac Migrate 2019-09-29T08:19:52.000Z

I complite test case use the follow command

```

1 arm-rtems5-gcc -march=armv7-a -mthumb -mfp=neon -mfloat-abi=hard -
  ↪mtune=cortex-a9 -mlong-calls -Wall -I. -O2 -c -o wsp/build/dl-o2.o
  ↪src/dl-o2.c
2 arm-rtems5-gcc -march=armv7-a -mthumb -mfp=neon -mfloat-abi=hard -
  ↪mtune=cortex-a9 -mlong-calls -Wall -I. -O2 -c -o wsp/build/dl-o1.o
  ↪src/dl-o1.c
3 arm-rtems5-ld -r -o wsp/build/dl.out wsp/build/dl-o2.o wsp/build/dl-o1.o

```

output message:

```

1 handle: 0x2207620 loaded
2 dl_o1_func
3 dl_o1_func
4 handle: 0x2207620 closed

```

The right output should be:

```

1 handle: 0x2207620 loaded
2 dl_o1_func
3 dl_o2_func
4 handle: 0x2207620 closed

```

Author: Trac Migrate 2019-09-29T08:33:08.000Z

I change the condition from STT_NOTYPE to STB_GLOBAL. It runs OK on my z7000 board, and I try it in my project(original use RAP format), it works too.

Author: Trac Migrate 2019-09-29T08:35:12.000Z

- **Attachment** [0001-fix-rtems_rtl_elf_find_symbol-bug-when-use-dynamic-l.patch](#) added

patch

Author: Chris Johns 2019-09-29T22:16:59.000Z

Thank you for the patch. I am not sure we can remove the check for STT_NOTYPE so should the change be ...

```

1 if (ELF_ST_BIND(sym->st_info) == STB_GLOBAL ||
2 ELF_ST_TYPE(sym->st_info) == STT_NOTYPE ||
3 sym->st_shndx == SHN_COMMON)
4 {
5 ...

```

I am concerned removing STT_NOTYPE may break other architectures.

Author: Trac Migrate 2019-10-08T01:57:11.000Z

This does not work on arm. From IHI0044E_aaelf.pdf section 4.5.2 , STT_NOTYPE does not mean a global symbol.

The function if(...) is to make a distinction between GLOBAL symbols and LOCAL symbols, so use (ELF_ST_TYPE(sym->st_info) == STT_NOTYPE) is wrong on ARM architectures. BTW: (ELF_ST_TYPE(sym->st_info) == STT_FUNC) works too on ARM.

But your concern is reasonable, I think we should test on different architectures.

Author: Trac Migrate 2019-11-20T16:22:21.000Z

I've successfully run jameszsj's patch and example code on these architectures/BSPs: Arm/xilinx_zynq_a9_qemu, PowerPC/psim, SPARC/erc32, and i386/pc386. I also ran tests DL01-09 on each stated BSP with and without the fix and ensured that the fix didn't break any of these tests.

Author: Chris Johns 2019-11-20T22:46:49.000Z

Replying to [Lou Woods](#):

I've successfully run jameszsj's patch and example code on these architectures/BSPs: Arm/xilinx_zynq_a9_qemu, PowerPC/psim, SPARC/erc32, and i386/pc386. I also ran tests DL01-09 on each stated BSP with and without the fix and ensured that the fix didn't break any of these tests.

Thank you. I assume dl06 and dl09 failed as expected?

Author: Trac Migrate 2019-11-21T15:29:47.000Z

Replying to [Chris Johns](#):

Replying to [Lou Woods](#):

I've successfully run jameszsj's patch and example code on these architectures/BSPs: Arm/xilinx_zynq_a9_qemu, PowerPC/psim, SPARC/erc32, and i386/pc386. I also ran tests DL01-09 on each stated BSP with and without the fix and ensured that the fix didn't break any of these tests.

Thank you. I assume dl06 and dl09 failed as expected? dl06 failed on all. dl09 only failed on erc32, also dl05 failed on pc386.

Author: Chris Johns 2019-11-21T19:31:42.000Z

Replying to [Lou Woods](#):

dl06 failed on all. dl09 only failed on erc32, also dl05 failed on pc386.

Thanks.

Was the result the same without the patch? I suspect it was, as we do not have a test that incrementally links object files. I think it would be good to have one.

I am fine with this patch being push on condition a test is added. If you cannot add a test, that is fine, however I would prefer the patch remains here until we have one.

A complication is this is a change to the build system and would effect Sebastian. I would like his input as well.

Author: Trac Migrate 2019-11-21T22:20:55.000Z

Replying to [Chris Johns](#):

Replying to [Lou Woods](#):

d106 failed on all. d109 only failed on erc32, also d105 failed on pc386.

Thanks. Was the result the same without the patch? Yes

I suspect it was, as we do not have a test that incrementally links object files. I think it would be good to have one. I am fine with this patch being push on condition a test is added. If you cannot add a test, that is fine, however I would prefer the patch remains here until we have one. I don't think it will be too hard to convert what jameszxj provided into an automated test. I don't think it is a problem to do that.

A complication is this is a change to the build system and would effect Sebastian. I would like his input as well. I can hold off until Sebastian has weighed in as well.

Author: Chris Johns 2019-11-21T23:15:49.000Z

Replying to [Lou Woods](#):

Replying to [Chris Johns](#):

Replying to [Lou Woods](#):

d106 failed on all. d109 only failed on erc32, also d105 failed on pc386.

Thanks. Was the result the same without the patch?

Yes

OK this means we need a test.

I suspect it was, as we do not have a test that incrementally links object files. I think it would be good to have one. I am fine with this patch being push on condition a test is added. If you cannot add a

test, that is fine, however I would prefer the patch remains here until we have one.

I don't think it will be too hard to convert what jameszxj provided into an automated test. I don't think it is a problem to do that.

Thanks. I would add it to dl01 unless you think it is best in another test. I do not see a need for a new test.

A complication is this is a change to the build system and would effect Sebastian. I would like his input as well.

I can hold off until Sebastian has weighed in as well.

Great, we need to know if we can change the current build system.

Author: Trac Migrate 2019-12-06T20:01:50.000Z

- **Attachment** 0001-dl01-Added-incrementally-linked-object-test-case.patch added

Added incrementally linked object test case to dl01 that works with rtems-tester

Author: Trac Migrate 2019-12-06T20:10:08.000Z

The above test case patch uses the current build system. Once the new build system is settled it can be converted and hopefully merged along with the fix.

Author: Chris Johns 2020-02-26T03:53:43.000Z

- **Milestone** changed from %"5.1" to %"6.1"

Author: Chris Johns 2022-11-29T22:03:01.000Z

- **Milestone** changed from %"6.1" to %"Indefinite"
- **Owner** set to Needs Funding
- **Version** changed from ~"5" to ~"7"

Author: xiaojun zheng 2024-05-03T11:06:07.904Z

mentioned in merge request !18

Author: Ranulfo Raphael 2024-05-06T11:19:47.101Z

mentioned in merge request !19

Author: Ranulfo Raphael 2024-05-07T21:33:02.640Z

mentioned in merge request [!25](#)

Author: Chris Johns 2024-06-21T06:00:01.919Z

changed the description

Author: Chris Johns 2024-06-21T06:01:54.176Z

I have reopened this issue because I have not checked the code that was merged. I do not want to revert the change because it may be OK and that only makes for churn and noise. It looks right but this area of code needs checking on a number of hosts.

Author: Sebastian Huber 2024-06-25T06:18:50.074Z

mentioned in merge request [!92](#)

1.5.1.86 3727 - RTEMS 5 raises exception on mvme2100 VME CPU board (PowerPC) (opened)

Id	3727
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-03-28T14:54:16.000Z
Updated	2025-09-19T01:45:41.129Z
Milestone	5.4
Labels	arch:powerpc, priority::high, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3727
Merges	0

Original author: goetzpf

Hello, version 5 of RTEMS crashes on a mvme2100 CPU board.

Here are details of the RTEMS version:

```

1 repository : git://git.rtems.org/rtems.git
2 branch      : master
3 version     : cbfc3415607a6943823e8fc47c38408dcc7dbd90
4 last commit : Thu Mar 14 08:20:54 2019 +0100

```

build commands:

```

1 ./bootstrap
2 mkdir -p build
3 cd build
4 ../configure --target=powerpc-rtems5 --enable-tests --enable-rtemsbsp="mvme2100_
↪beatnik" --prefix /home/pfeiffer/rtems/rtems/5
5 make -sj
6 make install

```

Booted File:

```

1 build/powerpc-rtems5/c/mvme2100/testsuites/libtests/dl10.exe

```

Boot Messages:

```

1 PPC5-Bug>nab
2
3 NetBoot about to Begin... Press <ESC> to Bypass, <SPC> to Continue
4
5 Network Booting from: DEC21143, Controller 0, Device 0
6 Device Name: /pci@fec00000/pci1011,19@e,0:0,0
7 Loading: /opt/IOC/idcp/dl10.exe
8
9 Client IP Address      = 193.149.12.202
10 Server IP Address     = 193.149.12.6
11 Gateway IP Address    = 193.149.12.1
12 Subnet IP Address Mask = 255.255.255.0
13 Boot File Name        = /opt/IOC/idcp/dl10.exe
14 Argument File Name    =
15
16 Network Boot File load in progress... To abort hit <BREAK>
17
18 Bytes Received =&8812400, Bytes Loaded =&8812400
19 Bytes/Second   =&734366, Elapsed Time =12 Second(s)
20
21 Residual-Data Located at: $01F5511C
22
23 Exception: Program (Illegal Instruction)
24 SRR0 =00005000 SRR1 =00083040 Vector-Offset =00700
25 IP      =00005000 MSR      =00003040 CR      =00000000 FPSCR =00000000
26 R0      =00000000 R1      =01F00000 R2      =00000000 R3      =01F5511C
27 R4      =00005000 R5      =00000000 R6      =00000000 R7      =00000000
28 R8      =00000000 R9      =00000000 R10     =00000000 R11     =00000000
29 R12     =00000000 R13     =00000000 R14     =00000000 R15     =00000000
30 R16     =00000000 R17     =00000000 R18     =00000000 R19     =00000000
31 R20     =00000000 R21     =00000000 R22     =00000000 R23     =00000000
32 R24     =00000000 R25     =00000000 R26     =00000000 R27     =00000000
33 R28     =00000000 R29     =00000000 R30     =00000000 R31     =00000000
34 SPR0    =9BBF322F SPR1    =00000000 SPR8    =00000000 SPR9    =00000000
35 00005000 7F454C46 WORD      $7F454C46
36 PPC5-Bug>

```


I have seen that dl10.exe compiled for the “beatnik” board support does not crash on a mvme5500 CPU board.

Author: Trac Migrate 2019-03-28T14:58:42.000Z

Original author: goetzpf

An exception also occurs when I build the examples-v2 project and load

```
1 examples-v2/hello/both_hello/o-optimize/both_hello.ralf
```

The exception with “hello.ralf” does not occur when I use branch “examples-v2-4-10-branch” of examples-v2 and RTEMS 4.10.

Author: Trac Migrate 2019-03-29T12:32:48.000Z

Original author: goetzpf

It seems that *.exe files cannot be loaded from the mvme2100 CPU anyway, but *.ralf files do.

So, in order to reproduce the bug you have to check out examples-v2 (<https://git.rtems.org/examples-v2>), build it and load “both_hello.ralf”.

On the mvme2100 cpu this still gives an exception.

The command

```
1 hexdump both_hello.ralf | less
```

shows that the file starts with “.ELF” in ASCII representation, so it is an probably an ELF file. This is probably not the format the CPU bootloader can load.

I verified that for the “beatnik” board support, the file “both_hello.ralf” does not start with “.ELF”, and there the hello world example works.

Author: Joel Sherrill 2019-03-29T13:22:00.000Z

Original author: goetzpf

The transformation step on linked executables (.exe) to downloadable images (.ralf) was dropped from the build system between 4.11 and 5. This is now something that should be done manually.

Specifically the bsp-post-link step is no longer performed. For BSPs that had one, the bsp-post-link definition is still present but not used in the RTEMS build tree. I am unsure offhand if it is used when building applications against the installed RTEMS image like the examples-v2 do with the rtems_waf build system (assuming waf is what you used there)

https://git.rtems.org/rtems/tree/bsps/powerpc/motorola_powerpc/config/mvme2100.cfg

I think this may be what you are seeing.

Author: Chris Johns 2019-03-29T22:33:47.000Z

Original author: goetzpf

Replying to [Joel Sherrill](#):

I am unsure offhand if it is used when building applications against the installed RTEMS image like the examples-v2 do with the rtems_waf build system (assuming waf is what you used there)

It will depend on the build system used to build examples-v2. The 4.10 would be Makefile.inc based and if the internal change to drop the post link conversion is exposed to the make build of examples-v2 it would also be dropped. The waf build does not support any post link conversions because there is no clean way this information could be captured. The work to add this type of support in a uniform way is complex and large given the number of BSPs we have.

Author: Trac Migrate 2019-05-27T08:25:57.000Z

Original author: goetzpf

In [changeset:"f419349a1370ffed9cb3d2322d01e801e012134e/rtems" f419349/rtems]:

```
1 bsp/powerpc: Adjust ppboot.lds
2
3 The GNU ld had a couple of changes which resulted in a broken bootloader
4 image generation. Recent linker versions tie assignments to their
5 nearest output section statement. Place all absolute symbols which are
6 used with @sectoff relocations into a special section.
7
8 See also:
9
10 "Binutils 2.28 on PowerPC: dangerous relocation: generic linker can't
11 handle R_PPC_SECTOFF_HA"
12
13 https://www.sourceware.org/ml/binutils/2019-05/msg00183.html
14
15 Update #3727
```

Author: Trac Migrate 2019-05-27T08:38:09.000Z

Original author: goetzpf

In [changeset:"a00052a341010ac7cf688e6366d7a3a96b48926f/rtems-docs" a00052a/rtems-docs]:

```

1 user: Document boot image generation
2
3 Update #3727.

```

Author: Trac Migrate 2019-06-27T12:39:56.000Z

Original author: goetzpf

In [changeset:"9b858ee6ef0805fc0671ed226d66295395d26cbc/rtems" 9b858ee/rtems]:

```

1 bsp/motorola_powerpc: Fix linker command file
2
3 Fix the __size symbol value to reflect the total size of the bootloader.
4 This prevents a bootloader crash with application images above a certain
5 threshold (e.g. fileio sample program).
6
7 Update #3727.

```

Author: Chris Johns 2021-02-07T22:09:14.000Z

Original author: goetzpf

Is the issue in this ticket fixed? Can the ticket be closed?

Author: Joel Sherrill 2021-02-08T04:48:35.000Z

Original author: goetzpf

If this runs on the board you have access to, close it.

Author: Chris Johns 2021-02-09T22:36:53.000Z

Original author: goetzpf

Replying to **Joel Sherrill**:

If this runs on the board you have access to, close it.

Who is this too?

If me, I do not have a mvme2100. The defines in the code means the mvme2100 is built differently to the mvme2[67]00.

Author: Joel Sherrill 2021-02-09T23:22:49.000Z

Original author: goetzpf

It was to you Chris. Ask on the list for someone with an MVME2100 to test with. I don't remember who Richard added mvme2100 support for. I might be able to dig it up. But we need a tester. Otherwise, we just may have to close this.

Author: Amar Takhar 2024-04-25T20:47:19.056Z

changed the description

1.5.1.87 3721 - Doxygen param “in/out” attributes not matching function behavior (opened)

Id	3721
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-03-08T15:00:34.000Z
Updated	2025-09-19T01:45:40.949Z
Milestone	5.4
Labels	priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3721
Merges	0

Original author: JSchweikhardt

It would seem that a number of doxygen comments in the source code do not match the function's behavior.

Example: /cpukit/include/rtems/rtems/message.h

```

1 171 /**
2 172 * @brief RTEMS Message Queue Receive
3 173 *
4 174 * This routine implements the rtems_message_queue_receive directive.
5 175 * This directive is invoked when the calling task wishes to receive
6 176 * a message from the message queue indicated by ID. The received
7 177 * message is to be placed in buffer. If no messages are outstanding
8 178 * and the option_set indicates that the task is willing to block,
9 179 * then the task will be blocked until a message arrives or until,
10 180 * optionally, timeout clock ticks have passed.
11 181 *
12 182 * @param[in] id is the queue id
13 183 * @param[in] buffer is the pointer to message buffer
14 184 * @param[in] size is the size of message receive
15 185 * @param[in] option_set is the options on receive
16 186 * @param[in] timeout is the number of ticks to wait
17 187 *
18 188 * @retval This method returns RTEMS_SUCCESSFUL if there was not an
19 189 * error. Otherwise, a status code is returned indicating the
20 190 * source of the error.
21 191 */

```

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```

22 192 rtems_status_code rtems_message_queue_receive(
23 193     rtems_id      id,
24 194     void          *buffer,
25 195     size_t         *size,
26 196     rtems_option    option_set,
27 197     rtems_interval timeout
28 198 );

```

Since the parameters “buffer” and “size” are output parameters, the comment should say

```

1 183 * @param[out] buffer is the pointer to message buffer
2 184 * @param[out] size is the size of message receive

```

There are other functions where this is inconsistent, so a look at all functions taking pointer parameters is likely a good idea.

Author: Joel Sherrill 2019-03-08T15:10:30.000Z

Original author: JSchweikhardt

This method was not the best example to pick to back up your case. The size parameter is used as **size* for the size of the caller’s buffer and filled in on output with the size of the message actually received.

<https://git.rtems.org/rtems/tree/cpukit/score/src/coremsgsize.c#n46>

This particular case is indeed in/out.

Others may indicate the thinking that the pointer was an input and **pointer* was the output.

Author: Trac Migrate 2019-03-08T15:36:17.000Z

Original author: JSchweikhardt

OK, from the description it was not clear that size is actually [inout]. Maybe there’s room for improvement as well.

As for “Others may indicate” I would argue that in that case “in” is redundant, or even pointless, since in C parameters are always passed by value, so can only be “in” by language definition.

Nit-pick: the coremsgsize.c you reference says “@brief Size” where it meant “Seize”. :-)

Author: Joel Sherrill 2019-03-08T19:02:36.000Z

Original author: JSchweikhardt

Replying to [Jens Schweikhardt](#):

OK, from the description it was not clear that size is actually [inout]. Maybe there's room for improvement as well.

I think this may be the only case in the Classic API where the value of a **argument* is expected to have a value set by the caller.. So I was picking a bit at the unlucky choice for an example. :)

The fact you landed on this one as an example without realizing that may indicate the documentation could be improved. :(

This still doesn't answer the question of how an output parameter via pointer should be annotated. The pointer has a value on input (e.g. in) but the **pointer* is where the output goes.

And the Doxygen for this method doesn't indicate that the buffer and **size* will be set on success. :(

As for "Others may indicate" I would argue that in that case "in" is redundant, or even pointless, since in C parameters are always passed by value, so can only be "in" by language definition.

Yes. This is true. But the personality of the people who did this are anal about consistency. If you say out or inout for some, what is the output for those where nothing is said in the input? Does it look like a mistake not to include in annotation? It is redundant but makes things consistent.

Nit-pick: the coremsgsize.c you reference says "@brief Size" where it meant "Seize". :-)

Got it. I fixed that locally and will push a commit when I catch my next round of patches.

Interestingly, Seize breaks the rule of "i before e except after c"

Author: Trac Migrate 2019-03-11T06:07:44.000Z

Original author: JSchweikhardt

The use of these [in], [out] and [in,out] specifiers is inconsistent and no clear guideline exists yet for the project. See also #3704 and <https://lists.rtems.org/pipermail/devel/2019-February/024988.html>.

Author: Trac Migrate 2019-03-11T09:05:27.000Z

Original author: JSchweikhardt

If I had to devise a (rough?) guideline:

- 1) only pointer parameters are annotated (since scalars are [in] by language definition)
- 2) [in] indicates that the pointer must point to an initialized object (it may be dereferenced by the directive)

3) [out] indicates that the object pointed to may be written by the directive

4) [inout] If both 2) and 3) apply.

This is basically how I interpret these annotations from the Interface Definition Languages from a past life where I used CORBA with a C binding. Word-smithing suggestions welcome.

Author: Chris Johns 2025-09-19T01:45:41.017Z

changed the description

1.5.1.88 3700 - Add `rtems_rate_monotonic_deadline()` (opened)

Id	3700
State	opened
Type	ISSUE
Author	Trac Migrate
Created	2019-02-26T09:50:42.000Z
Updated	2025-09-19T01:45:40.855Z
Milestone	5.4
Labels	priority::normal, qualification, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3700
Merges	0

Original author: sebastian.huber

Depending on the scheduler selection, the `rtems_rate_monotonic_period()` behaves differently. In case the EDF scheduler is configured, then tasks using a rate-monotonic object have a higher priority (based on deadline) than the fixed priority background tasks. This is quite bad for applications which want to use the periods with a fixed priority just to get statistics and a deadline miss detection. The default SMP scheduler provides EDF functionality, so this is an issue while porting applications to SMP systems. To give applications more control, add a new function:

```

1 /**
2  * @brief Starts a deadline and period.
3  *
4  * This routine starts a deadline and period. In case Earliest Deadline First
5  * (EDF) scheduling is available, then the priority of the executing task is
6  * adjusted according to the specified deadline. The next activation of the
7  * executing task is specified by the period parameter.
8  *
9  * @param id The rate monotonic object identifier.
10 * @param deadline The deadline in ticks. Must be positive.
11 * @param period The period in ticks. Must be greater than or equal to the
12 ↪ deadline.
13 *
14 * @retval RTEMS_SUCCESSFUL Successful operation.
15 * @retval RTEMS_INVALID_ID No period objects exists for the specified object

```

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```

15 * identifier.
16 * @retval RTEMS_NOT_OWNER_OF_RESOURCE The period object belongs to another task.
17 * @retval RTEMS_INVALID_NUMBER The deadline is zero or the period is less than
    ↳ the deadline.
18 * @retval RTEMS_TIMEOUT The previous deadline was missed.
19 */
20 rtems_status_code rtems_rate_monotonic_deadline(
21 rtems_id id,
22 rtems_interval deadline,
23 rtems_interval period
24 );

```

The new function uses two timing parameters to allow constrained deadlines and not only implicit deadlines.

The `rtems_rate_monotonic_period()` function should be changed to not alter the task priority depending on the implicit deadline. This avoids surprises while changing the scheduler to EDF in existing applications (especially while porting to an SMP system).

Author: Trac Migrate 2019-02-26T09:53:35.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 Depending on the scheduler selection, the rtems_rate_monotonic_period()
    ↳ behaves differently. In case the EDF scheduler is configured, then
    ↳ tasks using a rate-monotonic object have a higher priority (based on
    ↳ deadline) than the fixed priority background tasks. This is quite bad
    ↳ for applications which want to use the periods with a fixed priority
    ↳ just to get statistics and a deadline miss detection. The default SMP
    ↳ scheduler provides EDF functionality, so this is an issue while
    ↳ porting applications to SMP systems. To give applications more
    ↳ control, add a new function:
2 {{{
3 /**
4 * @brief Starts a deadline and period.
5 *
6 * This routine starts a deadline and period. In case Earliest Deadline
    ↳ First
7 * (EDF) scheduling is available, then the priority of the executing
    ↳ task is
8 * adjusted according to the specified deadline. The next activation of
    ↳ the
9 * executing task is specified by the period parameter.
10 *
11 * @param id The rate monotonic object identifier.
12 * @param deadline The deadline in ticks. Must be positive.

```

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(continued from previous page)

```

13 * @param period The period in ticks. Must be greater than or equal to
    ↳ the deadline.
14 *
15 * @retval RTEMS_SUCCESSFUL Successful operation.
16 * @retval RTEMS_INVALID_ID No period objects exists for the specified
    ↳ object
17 * identifier.
18 * @retval RTEMS_NOT_OWNER_OF_RESOURCE The period object belongs to
    ↳ another task.
19 * @retval RTEMS_INVALID_NUMBER The deadline is zero or the period is
    ↳ less than the deadline.
20 * @retval RTEMS_TIMEOUT The previous deadline was missed.
21 */
22 rtems_status_code rtems_rate_monotonic_deadline(
23 rtems_id id,
24 rtems_interval deadline,
25 rtems_interval period
26 );
27 }}}
28 The new function uses two timing parameters to allow constrained
    ↳ deadlines and not only implicit deadlines.
29 +
30 + The rtems_rate_monotonic_period() function should be changed to not
    ↳ alter the task priority depending on the implicit deadline. This
    ↳ avoids surprises while changing the scheduler to EDF in existing
    ↳ applications (especially while porting to an SMP system).

```

Author: Trac Migrate 2019-02-26T12:40:41.000Z

Original author: sebastian.huber

What complicates the interface a bit is that `rtems_rate_monotonic_deadline()` is called after the current job is done (like `rtems_rate_monotonic_period()`) with parameters for the next job. This means that the constraint `period >= deadline` for the parameters makes no sense. The period should specify the time from the last activation to the next activation. The deadline should specify the time from the next activation to the deadline time point. The function checks that you have met the last deadline.

Author: Joel Sherrill 2019-12-13T14:30:05.000Z

Original author: sebastian.huber

- **Milestone** changed from %”5.1” to %”6.1”

Pushing to 6.1. This is a recent ticket requesting an enhancement and should not block a 5 release.

Author: Trac Migrate 2020-06-29T21:18:44.000Z

Original author: sebastian.huber

We are seeing a behavior with EDF enabled in SMP mode that we see a hang under load. The test stimulus that we have isolated this to is now very simple.

```
for(uint32_t j = 0; j < test_iterations; j++) { sc = pthread_mutex_lock(&mx);  
rtems_test_assert(sc == RTEMS_SUCCESSFUL); NOP; sc =  
pthread_mutex_unlock(&mtx); rtems_test_assert(sc == RTEMS_SUCCESSFUL); }
```

When we run this pretty much basic unit test all OK. Then we run more and more threads in parallel and we see RTEMS lock up. When we go to the simple round-robin scheduler we can run these loops forever with as many threads as we want and don't see a lock-up.

Apologies if I am posting the question in the wrong place - I want to avoid creating spam. Sebastian seems to be the expert on EDF and we are wondering if this is a known issue with a lock-up under load with EDF enabled.

Author: Trac Migrate 2020-06-30T05:09:02.000Z

Original author: sebastian.huber

Replying to [Jonathan Walsh](#):

Apologies if I am posting the question in the wrong place - I want to avoid creating spam. Sebastian seems to be the expert on EDF and we are wondering if this is a known issue with a lock-up under load with EDF enabled. I moved this issue to a new ticket: [#4019](#).

Author: Trac Migrate 2021-11-19T14:45:12.000Z

Original author: sebastian.huber

- **Milestone** changed from %"6.1" to %"7.1"

Author: Amar Takhar 2024-04-25T20:47:07.202Z

changed the description

Author: Joel Sherrill 2025-09-18T23:58:07.507Z

unassigned @tracmigrate

1.5.1.89 3697 - pthread_once() lacks proper support for thread cancellation (opened)

Id	3697
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-02-21T09:19:27.000Z
Updated	2025-09-19T01:45:40.764Z
Milestone	5.4
Labels	api::posix, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3697
Merges	0

Original author: sebastian.huber

http://pubs.opengroup.org/onlinepubs/9699919799/functions/pthread_once.html

“The pthread_once() function is not a cancellation point. However, if init_routine is a cancellation point and is canceled, the effect on once_control shall be as if pthread_once() was never called.”

Author: Amar Takhar 2025-09-05T03:01:14.129Z

changed the description

1.5.1.90 3663 - Add nl_types.h support (opened)

Id	3663
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-12-17T14:34:33.000Z
Updated	2025-09-19T01:45:40.673Z
Milestone	5.4
Labels	old-indefinite, posix, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3663
Merges	0

Original author: Abr

POSIX Defines the functionality included in nl_types.h in http://pubs.opengroup.org/onlinepubs/7908799/xsh/nl_types.h.html

Author: Trac Migrate 2018-12-17T14:51:58.000Z

Original author: Abr

- **Milestone** set to %”Indefinite”
- **Version** set to ~”5”

Author: Amar Takhar 2024-04-25T20:47:00.095Z

changed the description

1.5.1.91 3656 - Function prototypes for posix_fadvise() and posix_fallocate() missing in <fcntl.h> header file (opened)

Id	3656
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-12-10T07:36:02.000Z
Updated	2025-09-19T01:45:40.579Z
Milestone	5.4
Labels	old-indefinite, posix::compliance, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3656
Merges	0

Original author: Zenon

Referring to the POSIX specification page, <http://pubs.opengroup.org/onlinepubs/9699919799/>, the page for <fcntl.h>. fcntl.h should contain the function prototype for posix_fadvise() and posix_fallocate(). However, currently, these are not implemented in <fcntl.h> header file.

Author: Amar Takhar 2024-04-25T20:46:56.833Z

changed the description

1.5.1.92 3642 - Add iswalnum(), iswalpha() ... (and 18 others) to <wchar.h> header (opened)

Id	3642
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-12-07T17:34:27.000Z
Updated	2025-09-19T01:45:40.485Z
Milestone	5.4
Labels	api::posix, old-indefinite, posix::compliance, priority::normal, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3642
Merges	0

Original author: Zenon

`` #include <wchar.h> `` fails to declare function prototypes for

```

1 iswalnum()
2 iswalpha()
3 iswcntrl()
4 iswctype()
5 iswdigit()
6 iswgraph()
7 iswlower()
8 iswprint()
9 iswpunct()
10 iswspace()
11 iswupper()
12 iswxdigit()

```

as required to be POSIX-Compliant. Even though they are marked obsolescent, they should be implemented until the function prototype are removed (in a newer version).

When fixed, please remove #include <wctype.h> and the corresponding comments referring to this ticket, from the following files:

```

1 pwd: rtems/testsuites/psxtests/psxhdrs/wchar/
2
3 iswalnum.c
4 iswalpha.c
5 iswcntrl.c
6 iswctype.c
7 iswdigit.c
8 iswgraph.c
9 iswlower.c
10 iswprint.c
11 iswpunct.c
12 iswspace.c

```

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```

13 iswupper.c
14 iswxdigit.c

```

Author: Trac Migrate 2018-12-07T17:51:54.000Z

Original author: Zenon

Hi! Since I don't have edit rights to the descriptions, I would add it as a comment for a mentor to add it inside:

Please add the following functions to the list of functions:

vfwprintf() vfwscanf() vswprintf() vswscanf() vwprintf() vwscanf() tolower()
toupper()

as well as the following files:

vfwprintf.c vfwscanf.c vswprintf.c vswscanf.c vwprintf.c vwscanf.c tolower.c
toupper.c

Author: Trac Migrate 2018-12-07T17:52:15.000Z

Original author: Zenon

- **Summary** changed from *Add iswalnum(), iswalpha() ... (and 10 others) to <wchar.h> header* to *Add iswalnum(), iswalpha() ... (and 18 others) to <wchar.h> header*

Author: Amar Takhar 2024-04-25T20:46:51.118Z

changed the description

1.5.1.93 3635 - Remove #if defined(__CYGWIN__) from complex.h header file (opened)

Id	3635
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-12-05T22:50:05.000Z
Updated	2025-09-19T01:45:40.391Z
Milestone	5.4
Labels	api::posix, old-indefinite, posix::compliance, priority::normal, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3635
Merges	0

Original author: Zenon

Re: GCI 2018 POSIX Compliance test for complex.h file Without declaring ``#define \_\_CYGWIN\_\_ 1``, including complex.h itself does not allow the execution of the functions.

The #if defined (__CYGWIN__) wrapping these lines should be removed:

```
1 #if defined(__CYGWIN__)
2 long double complex cacosl(long double complex);
3 long double complex ccosl(long double complex);
4 long double complex csinl(long double complex);
5 long double complex ctanl(long double complex);
6 long double complex cacoshl(long double complex);
7 long double complex casinhl(long double complex);
8 long double complex catanhl(long double complex);
9 long double complex ccoshl(long double complex);
10 long double complex csinhl(long double complex);
11 long double complex ctanhl(long double complex);
12 long double complex cexpl(long double complex);
13 long double complex cpowl(long double complex, long double complex);
14 long double complex conjl(long double complex);
15 long double complex cprojl(long double complex);
```

When the bug is fixed, the following files need to have ``#define \_\_CYGWIN\_\_ 1`` removed, along with the corresponding comments referring to this ticket:

In /testsuites/psxtests/psxhdrs/complex/

cacosl.c ccosl.c csinl.c ctanl.c cacoshl.c casinhl.c catanhl.c ccoshl.c csinhl.c ctanhl.c cexpl.c cpowl.c conjl.c cprojl.c

Author: Amar Takhar 2024-04-25T20:46:48.368Z

changed the description

1.5.1.94 3628 - moxie/moxiesim rtems-syms unknown machine type (opened)

Id	3628
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-11-29T16:52:24.000Z
Updated	2025-09-19T01:45:40.276Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3628
Merges	0

dl07 fails due to unknown machine type:

```
1 rtems-syms -e -c "-Os -g -ffunction-sections -fdata-sections -Wall -Wmissing-
  ↳ prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs
```

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```

↪ " -o dl07-sym.o dl07.pre
2 error: machine-type: unknown machine type: 223
3 gmake[5]: *** [dl07-sym.o] Error 10

```

Author: Chris Johns 2020-02-26T03:55:18.000Z

- **Milestone** changed from %"5.1" to %"Indefinite"
- **Owner** set to Needs Funding

Author: Amar Takhar 2025-09-05T03:01:13.741Z

changed the description

1.5.1.95 3610 - [UPDATE WIKI PAGE] TBR/Review/Debugging/Start (opened)

Id	3610
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-16T18:19:16.000Z
Updated	2025-09-19T01:45:40.163Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3610
Merges	0

Original author: Shashvat Jain

The page <https://devel.rtems.org/wiki/TBR/Review/Debugging/Start> contains old and out-dated information regarding debugging, update this page and add it to a suitable module in rtems-docs.

Below is the outline of the content there. Some of the content could be updated and useful. As a review guide, here is the outline. If the content of a section be deleted because that topic is covered elsewhere, we should note where the content is next to the section, and delete it from the TBR page. If it needs updating and moved, note that and where to. But let's track this until the page can be deleted. This will take a bit of nibbling by multiple people.

- Debugging
- Symbolic Debug Information
- Hardware Assisted Debugging
- Coldfire and M683xx BDM
- Debugging a BSP
- GDB and RTEMS

- Eclipse Plug-in
- How much memory is left in the C Program Heap?
- How much memory is left in the RTEMS Workspace?
- BSP `rtems_initialize_executive_late` call dies
- GDB Cannot Find My Source Files
- Starting With Hello World
- Standard IO and File Issues
- Newlib's Stdio Functions return -1/EOF
- `open`, `fopen`, and socket creation fail
- Optional Debugging Tools Provided by RTEMS
- RTEMS Monitor
- Capture Engine
- CPU Usage Monitoring
- Stack Checker
- Optional Compile-time Selections

Author: Joel Sherrill 2018-11-16T18:50:00.000Z

Original author: Shashvat Jain

- **Description** changed

```

1 - this page contains old and outdated information regarding debugging ,
  ↳ update this page and add it to a suitable module in rtems-docs.
2 ? ^^^^
3
4 + The page https://devel.rtems.org/wiki/TBR/Review/Debugging/Start_
  ↳ contains old and outdated information regarding debugging, update_
  ↳ this page and add it to a suitable module in rtems-docs.
5 ? ^^^ ++++++
  ↳
  ↳
  ↳
6
7 +
8 + Below is the outline of the content there. Some of the content could_
  ↳ be updated and useful. As a review guide, here is the outline. If the_
  ↳ content of a section be deleted because that topic is covered_
  ↳ elsewhere, we should note where the content is next to the section,_
  ↳ and delete it from the TBR page. If it needs updating and moved, note_
  ↳ that and where to. But let's track this until the page can be deleted.
  ↳ This will take a bit of nibbling by multiple people.
9 +
10 + * Debugging

```

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```

11 + * Symbolic Debug Information
12 + * Hardware Assisted Debugging
13 + * Coldfire and M683xx BDM
14 + * Debugging a BSP
15 + * GDB and RTEMS
16 +
17 + * Eclipse Plug-in
18 +
19 + * How much memory is left in the C Program Heap?
20 +
21 + * How much memory is left in the RTEMS Workspace?
22 +
23 + * BSP rtems_initialize_executive_late call dies
24 +
25 + * GDB Cannot Find My Source Files
26 +
27 + * Starting With Hello World
28 +
29 + * Standard IO and File Issues
30 + * Newlib's Stdio Functions return -1/EOF
31 + * open, fopen, and socket creation fail
32 +
33 + * Optional Debugging Tools Provided by RTEMS
34 +
35 + * RTEMS Monitor
36 + * Capture Engine
37 + * CPU Usage Monitoring
38 + * Stack Checker
39 + * Optional Compile-time Selections

```

- **Milestone** changed from %”5.1” to %”Indefinite”
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*
- **Version** ~”5” deleted

Author: Amar Takhar 2025-09-05T03:01:13.297Z

changed the description

1.5.1.96 3607 - Qemu build failure on Msys2 (opened)

Id	3607
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-11-14T20:26:59.000Z
Updated	2025-09-19T01:45:40.060Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3607
Merges	0

Current RSB master builds qemu a while on MSYS2 before failure as follows:

```

1 libtool: link: x86_64-w64-mingw32-gcc -O2 -pipe -I/c/msys64/home/jrs007/rtems-
  ↳source-builder/bare/build/tmp/sb-jrs007/d/c/msys64/home/jrs007/tools/include -
  ↳shared .libs/iconv.o .libs/localcharset.o .libs/relocatable.o .libs/iconv-
  ↳exports.o .libs/libiconv.res.o -L/c/msys64/home/jrs007/rtems-source-builder/
  ↳bare/build/tmp/sb-jrs007/d/c/msys64/home/jrs007/tools/lib -O2 -Wl,--export-all-
  ↳symbols -O2 -o .libs/libiconv-2.dll -Wl,--enable-auto-image-base -Xlinker --
  ↳out-implib -Xlinker .libs/libiconv.dll.a
2 .libs/iconv.o: In function `libiconv_open':
3 C:\msys64\home\jrs007\rtems-source-builder\bare\build\l1xwm1\build\lib\..
  ↳./libiconv-1.14/lib/iconv_open1.h:176: undefined reference to `aliases2_lookup
  ↳'
4 .libs/iconv.o: In function `libiconv_open_into':
5 C:\msys64\home\jrs007\rtems-source-builder\bare\build\l1xwm1\build\lib\..
  ↳./libiconv-1.14/lib/iconv_open1.h:176: undefined reference to `aliases2_lookup
  ↳'

```

This is a known issue and the workarounds are at <https://savannah.gnu.org/bugs/?47953>

Which of the two alternatives is best to incorporate into the RSB?

Author: Chris Johns 2018-11-14T22:56:24.000Z

- **Status** changed from *assigned* to *new*

Author: Chris Johns 2018-11-14T22:56:54.000Z

- **Milestone** changed from %”5.1” to %”Indefinite”
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2025-09-05T03:01:12.919Z

changed the description

1.5.1.97 3582 - Remove dedicated support for boundary constraint in heap allocator (opened)

Id	3582
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-07T11:02:37.000Z
Updated	2025-09-19T01:45:39.960Z
Milestone	5.4
Labels	old-indefinite, priority::normal, rtems::score, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3582
Merges	0

Original author: sebastian.huber

Some time ago a dedicated support for a boundary constraint was added to the first fit heap allocator. The use case for this is the libbsd (new network stack) which needs this for the bus space allocator:

https://www.freebsd.org/cgi/man.cgi?query=bus_dma

It turned out that this feature is rarely used. It makes the first fit heap allocator implementation considerably more complex. It is also not a standard allocator feature which makes it more difficult to replace the first fit heap allocator with something else, e.g. TLSF.

The boundary constraint can be also satisfied by an allocator which supports only the alignment constraint via:

```

1 if (boundary > alignment) {
2   assert(alignment == 0 || boundary % alignment == 0);
3   alignment = boundary;
4 }

```

Author: Trac Migrate 2019-12-19T08:07:34.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.1" to %"6.1"

Author: Chris Johns 2022-06-14T06:46:19.000Z

Original author: sebastian.huber

TLSF provides `tlsf_memalign()`. I think this ticket can be closed and the requirement for an aligned allocation call for any new allocators be made.

Author: Chris Johns 2022-06-14T06:46:52.000Z

Original author: sebastian.huber

- **Milestone** changed from %”6.1” to %”Indefinite”
- **Version** ~”5” deleted

Author: Trac Migrate 2022-06-20T05:51:24.000Z

Original author: sebastian.huber

This ticket refers to the first fit allocator. Removing the boundary support would simplify the implementation a bit. We should replace the first fit allocator with TLSF, so this ticket is probably obsolete.

Author: Chris Johns 2022-06-20T07:41:33.000Z

Original author: sebastian.huber

Replying to **Sebastian Huber**:

This ticket refers to the first fit allocator. Removing the boundary support would simplify the implementation a bit. We should replace the first fit allocator with TLSF, so this ticket is probably obsolete.

I agree and thanks and that was my view. Please close if you think it would be covered in the other ticket.

Author: Amar Takhar 2025-09-05T02:57:39.694Z

changed the description

1.5.1.98 3544 - Coverity flags use of uninitialized variable in e500-mmuc.c (opened)

Id	3544
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-10-09T13:41:29.000Z
Updated	2025-09-19T01:45:39.846Z
Milestone	5.4
Labels	arch:powerpc, old-indefinite, priority::normal, scan::coverity, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3544
Merges	0

Coverity ids: 1440032 1440034 1440037 1440042

I am unsure why `rtems_interrupt_disable()` is confusing Coverity in this one file but it seems odd. I would expect it to be causing more issues.

```

1 519 rtems_e500_tlb_idx
2 520 rtems_e500_ftlb(uint32_t ea, int as)
3 521 {
4 522     uint32_t          pid, mas0, mas1;
5 523     int                i, rval = -1;
6 1. var_decl: Declaring variable lvl without initializer.
7 524 rtems_interrupt_level lvl;
8 525
9
10 CID 1440042 (#1 of 1): Uninitialized scalar variable (UNINIT)
11 2. uninit_use_in_call: Using uninitialized value lvl when calling rtems_interrupt_
   ↪ disable.
12 526 rtems_interrupt_disable(lvl);

```

Author: Joel Sherrill 2018-10-09T13:41:47.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Joel Sherrill 2018-10-13T22:56:00.000Z

- **Milestone** changed from %"5.1" to %"5.2"

Author: Joel Sherrill 2018-10-14T00:21:43.000Z

- **Milestone** changed from %"5.2" to %"4.11.1"

Author: Trac Migrate 2018-10-18T13:24:46.000Z

- **Milestone** changed from %"4.11.1" to %"Indefinite"

Author: Amar Takhar 2024-04-25T20:46:32.288Z

changed the description

1.5.1.99 3534 - Reduce uses of `rtems_event_transient_send()` (opened)

Id	3534
State	opened
Type	ISSUE
Author	Trac Migrate
Created	2018-10-01T06:16:28.000Z
Updated	2025-09-19T01:45:39.752Z
Milestone	5.4
Labels	device, priority::normal, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3534
Merges	0

Original author: sebastian.huber

The transient event predates the self-contained binary semaphores available now via `<rtems/threads.h>` and is used as workaround to avoid explicit synchronization objects. There are two issues with the transient event.

1. It is a per-thread resources and using it for different components makes debugging/development difficult. Issues noticed in one component may be caused by another component.
2. The diagnostic information (e.g. “task” shell command) is poor.

Replace the transient event with a binary semaphore if possible.

The performance test `tmonetoone`:

```

1 *** BEGIN OF TEST TMONETOONE ***
2 *** TEST VERSION: 6.0.0.4ac51046e0cd6d22d4c89f6d0bbea2383898d698
3 *** TEST STATE: EXPECTED_PASS
4 *** TEST BUILD: RTEMS_SMP
5 *** TEST TOOLS: 10.0.1 20200406 (RTEMS 6, RSB_
↳ b69f54d51740810dc54a50662f5da4d4ba0ddd18, Newlib ece49e4)
6 yield
7 a 25425
8 b 25424
9 event
10 a 14082
11 b 14082
12 self-contained binary semaphore
13 a 12449
14 b 12449
15 Classic binary semaphore (FIFO)
16 a 12525
17 b 12524
18 Classic binary semaphore (priority)
19 a 11649
20 b 11649
21
22 *** END OF TEST TMONETOONE ***

```

shows that the events performing slightly better than the binary semaphores. However, the yield count is about two times the binary semaphore count.

This raises the question if we have to offer a better synchronization primitive for the request and wait for response type actions. This pattern is quite common in device drivers.

Author: Trac Migrate 2018-10-01T06:16:36.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2018-10-01T07:03:10.000Z

Original author: sebastian.huber

In [changeset:"fca9132aa5435a44a4a64adaa8438a177b33cab6/rtems" fca9132/rtems]:

```
1 bsp/atsam: Use binary semaphore for SPI
2
3 Update #3534.
```

Author: Trac Migrate 2018-10-01T07:03:25.000Z

Original author: sebastian.huber

In [changeset:"5cb23f4b8870499b306cfb99186aa484ed0a47f1/rtems" 5cb23f4b/rtems]:

```
1 bsp/atsam: Use binary semaphore for I2C
2
3 Remove superfluous sleep before each I2C transfer. Reset I2C module
4 after transfer timeouts.
5
6 Update #3534.
```

Author: Trac Migrate 2019-12-19T08:07:34.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.1" to %"6.1"

Author: Trac Migrate 2020-07-24T09:38:42.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 The transient event predates the self-contained binary semaphores.
  ↳ available now via <rtems/threads.h> and is used as workaround to
  ↳ avoid explicit synchronization objects. There are two issues with the
  ↳ transient event.
2
3 1. It is a per-thread resources and using it for different components.
  ↳ makes debugging/development difficult. Issues noticed in one
  ↳ component may be caused by another component.
4
5 2. The diagnostic information (e.g. "task" shell command) is poor.
6
7 Replace the transient event with a binary semaphore if possible.
8 +
9 + The performance test tmonetoone:
10 + {{{
11 + *** BEGIN OF TEST TMONETOONE ***
12 + *** TEST VERSION: 6.0.0.4ac51046e0cd6d22d4c89f6d0bbea2383898d698
13 + *** TEST STATE: EXPECTED_PASS
14 + *** TEST BUILD: RTEMS_SMP
15 + *** TEST TOOLS: 10.0.1 20200406 (RTEMS 6, RSB
  ↳ b69f54d51740810dc54a50662f5da4d4ba0ddd18, Newlib ece49e4)
16 + yield
17 + a 25425
18 + b 25424
19 + event
20 + a 14082
21 + b 14082
22 + self-contained binary semaphore
23 + a 12449
24 + b 12449
25 + Classic binary semaphore (FIFO)
26 + a 12525
27 + b 12524
28 + Classic binary semaphore (priority)
29 + a 11649
30 + b 11649
31 +
32 + *** END OF TEST TMONETOONE ***
33 + }}}
34 + shows that the events performing slightly better than the binary
  ↳ semaphores. However, the yield count is about two times the binary
  ↳ semaphore count.
35 +
36 + This raises the question if we have to offer a better synchronization
  ↳ primitive for the request and wait for response type actions. This
  ↳ pattern is quite common in device drivers.

```

Author: Trac Migrate 2022-09-08T08:08:29.000Z

Original author: sebastian.huber

- **Milestone** changed from %”6.1” to %”7.1”

Author: Joel Sherrill 2025-09-18T23:54:16.782Z

changed the description

Author: Joel Sherrill 2025-09-18T23:54:22.116Z

unassigned @tracmigrate

1.5.1.100 3524 - Add a separate system initialization handler set for secondary processors (opened)

Id	3524
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-09-20T12:36:44.000Z
Updated	2025-09-19T01:45:39.657Z
Milestone	5.4
Labels	priority::normal, rtems::score, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3524
Merges	0

Original author: sebastian.huber

Currently the only the boot processor calls system initialization handlers in `rtems_initialize_executive()`. Add a second set of handlers which are called by secondary processors in `_SMP_Start_multitasking_on_secondary_processor()` after the CPU state change to `PER_CPU_STATE_READY_TO_START_MULTITASKING`.

The use case for this are device drivers and extensions such as the stack checker.

Author: Trac Migrate 2019-12-19T08:07:34.000Z

Original author: sebastian.huber

- **Milestone** changed from %”5.1” to %”6.1”

Author: Trac Migrate 2022-01-26T13:32:46.000Z

Original author: sebastian.huber

- **Milestone** changed from %”6.1” to %”7.1”

Author: Joel Sherrill 2025-09-18T23:53:21.276Z

changed the description

1.5.1.101 3521 - JFFS2 has a year 2038 problem (opened)

Id	3521
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-09-17T10:16:53.000Z
Updated	2025-09-19T01:45:39.556Z
Milestone	5.4
Labels	filesystem::jffs2, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3521
Merges	0

Original author: sebastian.huber

We have 32-bit time values in:

```

1 /* The JFFS2 raw inode structure: Used for storage on physical media. */
2 /* The uid, gid, atime, mtime and ctime members could be longer, but
3  are left like this for space efficiency. If and when people decide
4  they really need them extended, it's simple enough to add support for
5  a new type of raw node.
6  */
7 struct jffs2_raw_inode
8 {
9     ...
10    jint32_t atime;    /* Last access time. */
11    jint32_t mtime;    /* Last modification time. */
12    jint32_t ctime;    /* Change time. */
13    ...
14 };

```

Author: Amar Takhar 2025-09-05T03:01:12.342Z

changed the description

1.5.1.102 3515 - covoar failure while running for full testsuites/ (opened)

Id	3515
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-09-13T08:37:37.000Z
Updated	2025-09-19T01:45:39.460Z
Milestone	5.4
Labels	priority::normal, rtems::testing, scan::coverage, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3515
Merges	0

Original author: thelunatic

The covoar fails to complete for some symbol-sets with specific exes. below I have noted all the sybol-sets that fail, along with the exe that causes the failure.

It is observed that when covoar is run excluding these exes, it completes successfully .

- posix
- sptests/spmutex01.exe
- fstests/fsclose01.exe
- sapi
- sptests/spversion01.exe
- librfs
- fstests/mrfs_fserror.exe
- fstests/mrfs_fsrldr.exe

(all fstests/mrfs_*.exe fails) * fstests/fsrofs01.exe * libtests/flashdisk01.exe

- libdevnull
- sptests/sp21.exe
- psxtests/psx mmap01.exe
- tmtests/tm20.exe
- libblock
- fstests/fsbdpart01.exe

Command used for configuring leon3:

```
1 ../rtems/configure \\  
2 --prefix=$HOME/development/rtems/5 \\  
3 --target=sparc-rtems5 \\  
4
```

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```
4 --enable-rtemsbsp=leon3 \\  
5 --enable-posix --enable-tests
```

command used for running covoar:

```
1 covoar -vvvv -S /home/lunatic/development/rtems/rtems-tools/tester/rtems/testing/  
  ↪coverage/leon3-qemu-symbols.ini \\  
2 -O leon3-qemu-coverage \\  
3 -E /home/lunatic/development/rtems/rtems-tools/tester/rtems/testing/coverage/  
  ↪Explanations.txt \\  
4 -p RTEMS-5 `find . -name *.exe`
```

Author: Joel Sherrill 2019-03-12T18:24:40.000Z

Original author: thelunatic

Is this still an issue or did it get fixed?

Author: Trac Migrate 2019-03-12T19:41:30.000Z

Original author: thelunatic

Replying to [Joel Sherrill](#):

Is this still an issue or did it get fixed? I just tried running (leon3 with
sis and qemu) and it seems like it's still an issue.

Author: Amar Takhar 2024-04-25T20:46:29.675Z

changed the description

Author: Amar Takhar 2024-04-26T01:34:37.201Z

mentioned in issue [rtems/programs/gsoc#25](#)

1.5.1.103 3462 - Convert covoar C code to C++ (opened)

Id	3462
State	opened
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2018-06-21T07:45:06.000Z
Updated	2025-09-19T01:45:39.370Z
Milestone	5.4
Labels	old-indefinite, priority::normal, scan::coverage, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3462
Merges	0

Some of the code in covoar is C while the program is C++. Convert the C code to C++.

Author: Trac Migrate 2018-06-21T07:57:20.000Z

In [changeset:"bf8e59f83bf8d520bd550c50f566bd8cbccdd88c/rtems-tools"bf8e59f/rtems-tools]:

```
1 covoar: Covert CoverageMapBase C to C++
2
3 Updates #3462
```

Author: Joel Sherrill 2018-10-13T22:46:43.000Z

- **Milestone** changed from %"5.1" to %"Indefinite"

Author: Amar Takhar 2024-04-25T20:46:22.737Z

changed the description

Author: Amar Takhar 2024-04-26T01:34:38.140Z

mentioned in issue rtems/programs/gsoc#25

1.5.1.104 3448 - Add GCC, Binutils+GDB, Newlib mirrors to RTEMS github (opened)

Id	3448
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-06-07T07:30:17.000Z
Updated	2025-09-19T01:45:39.283Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::task, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3448
Merges	0

Original author: sebastian.huber

Sometimes it is necessary to use a snapshot of GCC, Binutils+GDB or Newlib. The snapshot archives of GCC and Binutils+GDB are only available for a certain time (e.g. half a year).

<https://lists.rtems.org/pipermail/devel/2018-June/021907.html>

The sourceware.org Git services do not provide snapshots.

One option would be to use github since it provides snapshots. However, no official mirrors at github exist.

Add mirrors for GCC, Binutils+GDB and Newlib to <https://github.com/rtems>.

Author: Trac Migrate 2018-06-11T08:31:19.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber

My first step is to add

- <https://github.com/rtems/binutils-gdb>
- <https://github.com/rtems/gcc>
- <https://github.com/rtems/newlib-cygwin>

repositories, starting with the master branches only.

The second step is to add a cron job to dispatch.rtems.org to synchronize the repositories once per day with the upstream repositories.

Do we want to mirror all branches of the upstream repositories?

Author: Chris Johns 2018-06-11T09:29:49.000Z

Original author: sebastian.huber

What is practical?

The servers are on a fast backbone and so I do not see a big issue here.

Author: Trac Migrate 2018-06-11T09:51:22.000Z

Original author: sebastian.huber

The least maintenance overhead has probably an automated mirroring of all branches since there are standard Git commands to do this.

Author: Trac Migrate 2018-06-11T09:56:25.000Z

Original author: sebastian.huber

How are is the Git mirroring done for the RTEMS repositories? Can we use the same Git user account for this?

Author: Gedare Bloom 2018-06-11T14:17:40.000Z

Original author: sebastian.huber

This account <https://github.com/rtems-updater> is used from dispatch to push commits in a git hook. I don't know who has the rtems-updater credentials, probably Amar set it up. I would guess its private key should be on dispatch though.

Author: Chris Johns 2018-06-12T01:48:22.000Z

Original author: sebastian.huber

Can the repos please be under something like 'misc' or 'gnu' or 'fsf' and not at the top level.

I am concerned being at the top level will imply this is what users need to use.

Thanks

Author: Trac Migrate 2018-06-12T05:35:32.000Z

Original author: sebastian.huber

I added the repositories.

I don't know you can add subdirectories in Github. Is this possible at all?

We could use some sort of prefix, e.g. mirror-gcc, mirror-binutils-gdb, mirror-newlib-cygwin.

Author: Trac Migrate 2018-06-12T05:37:34.000Z

Original author: sebastian.huber

The git clone -mirror checkout of the three repository need 2.5G of space on my disk. On dispatch.rtems.org we have currently:


```
df -h Filesystem Size Used Avail Capacity Mounted on /dev/gpt/root0 88G 80G 1.4G
98% /
```

Author: Chris Johns 2018-06-12T07:07:06.000Z

Original author: sebastian.huber

Replying to [Sebastian Huber](#):

I don't know you can add subdirectories in Github. Is this possible at all?

I thought you could but I must have not understood what I was looking at. I see there are pinned repos which might help us if we pin our ones so they are at the top.

We could use some sort of prefix, e.g. mirror-gcc, mirror-binutils-gdb, mirror-newlib-cygwin.

That is a good idea. fsf-mirror-gcc?.

Author: Chris Johns 2018-06-12T07:08:08.000Z

Original author: sebastian.huber

Replying to [Sebastian Huber](#):

The git clone -mirror checkout of the three repository need 2.5G of space on my disk. On dispatch.rtems.org we have currently: df -h Filesystem Size Used Avail Capacity Mounted on /dev/gpt/root0 88G 80G 1.4G 98% /

What if we use the NAS under /data/ftp?

Author: Trac Migrate 2018-06-12T07:57:08.000Z

Original author: sebastian.huber

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

I don't know you can add subdirectories in Github. Is this possible at all?

I thought you could but I must have not understood what I was looking at. I see there are pinned repos which might help us if we pin our ones so they are at the top.

I added pinned repositories.

We could use some sort of prefix, e.g. mirror-gcc, mirror-binutils-gdb, mirror-newlib-cygwin.

That is a good idea. fsf-mirror-gcc?.

What about gnu-mirror-gcc, sourceware-mirror-newlib-cygwin, and sourceware-mirror-binutils-gdb? This reflects the URL of the upstream Git repositories somehow.

Author: Chris Johns 2018-06-12T22:33:51.000Z

Original author: sebastian.huber

Replying to [Sebastian Huber](#):

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

I don't know you can add subdirectories in Github.
Is this possible at all?

I thought you could but I must have not understood what I was looking at. I see there are pinned repos which might help us if we pin our ones so they are at the top.

I added pinned repositories.

Thanks. Looks good.

I am wondering if I change the “Kernel, networking, file-systems, drivers, BSPs, samples, and testsuite.” description on rtems to “Kernel (SMP), file-systems, drivers, BSPs, samples, and testsuite.” and libbsd to “RTEMS FreeBSD, networking, USB, and media.” ?

We could use some sort of prefix, e.g.
mirror-gcc, mirror-binutils-gdb, mirror-newlib-cygwin.

That is a good idea. fsf-mirror-gcc?.

What about gnu-mirror-gcc, sourceware-mirror-newlib-cygwin, and sourceware-mirror-binutils-gdb? This reflects the URL of the upstream Git repositories somehow.

Nice. That makes sense to me.

Author: Trac Migrate 2018-06-13T05:33:44.000Z

Original author: sebastian.huber

I have now the following setup on a local machine:

```
1 git clone --mirror git://sourceware.org/git/binutils-gdb.git
2 cd binutils-gdb
3 git remote add github git@github.com:RTEMS/sourceware-mirror-binutils-
  ↪gdb.git
```

```
1 git clone --mirror git://sourceware.org/git/newlib-cygwin.git
2 cd newlib-cygwin
```

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```
3 git remote add github git@github.com:RTEMS/sourceware-mirror-newlib-
  ↪cygwin.git
```

```
1 git clone --mirror git://gcc.gnu.org/git/gcc.git/git/binutils-gdb.git
2 cd gcc
3 git remote add github git@github.com:RTEMS/gnu-mirror-gcc.git
```

Synchronization is quite easy:

```
1 git fetch
2 git push --mirror github
```

I will set up a cron job on my local machine for now. It runs during work days. To set it up on dispatch.rtems.org we need more disk space (I suggest 4G) and someone with enough privileges on this server.

Author: Chris Johns 2018-06-13T05:58:49.000Z

Original author: [sebastian.huber](#)

Replying to [Sebastian Huber](#):

I will set up a cron job on my local machine for now. It runs during work days. To set it up on dispatch.rtems.org we need more disk space (I suggest 4G) and someone with enough privileges on this server.

Your local ftp directory under your personal area is on the NAS and should have enough space. Note, the NAS's FTP may not appear in the `du` list.

You can `chmod` the work space to stop it being scanned by search bots.

Author: Trac Migrate 2018-06-18T06:38:44.000Z

Original author: [sebastian.huber](#)

I have at least two problems to set this up on dispatch.rtems.org:

1. I cannot add a user cron job:

```
1 dispatch:~ # crontab -u sebh -e
2 crontab: must be privileged to use -u
3 dispatch:~ # sudo crontab -u sebh -e
4 -bash: sudo: command not found
```

2. The Git mirror script forwards the request to a local server on port 8003 (`/data/support/git-support/hooks/github-cmd-send.py`). This server probably needs to have access to the local Git clone. I cannot set this up.

Author: Trac Migrate 2019-12-19T08:15:22.000Z

Original author: sebastian.huber

- **Milestone** changed from %”5.1” to %”Indefinite”

Author: Joel Sherrill 2021-12-17T16:16:53.000Z

Original author: sebastian.huber

Doesn't this work now? Sebastian/Chris would you close the ticket or clarify what remains to do?

Author: Amar Takhar 2025-09-05T02:57:39.496Z

changed the description

1.5.1.105 3441 - Add support in covoar to generate separate report for each symbol-set (opened)

Id	3441
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-06-06T12:04:38.000Z
Updated	2025-09-19T01:45:39.193Z
Milestone	5.4
Labels	priority::normal, scan::coverage, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3441
Merges	0

Original author: thelunatic

The covoar tool is capable of processing multiple sets from a single ini file. But it creates a single report for all the symbols/subsystems, e.g, if covoar is run for score and rtems then it will generate a single symbolSymmary.txt report. It needs to be updated to generate separate report for all the symbols.

Author: Amar Takhar 2024-04-25T20:46:20.128Z

changed the description

Author: Amar Takhar 2024-04-26T01:34:38.540Z

mentioned in issue rtems/programs/gsoc#25

1.5.1.106 3440 - Add support in tester to run coverage on supported bsp without –coverage option (opened)

Id	3440
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-06-06T11:43:54.000Z
Updated	2025-09-19T01:45:39.102Z
Milestone	5.4
Labels	priority::normal, scan::coverage, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3440
Merges	0

Original author: thelunatic

The tester currently needs –coverage option to run coverage for a supported bsp. This needs to be updated to run coverage without the –coverage option, whenever a supported bsp (like leon3-qemu-cov) is used.

Author: Amar Takhar 2024-04-25T20:46:19.706Z

changed the description

1.5.1.107 3422 - Move nbench from examples-v2 to main RTEMS benchmarks (opened)

Id	3422
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-05-01T14:09:37.000Z
Updated	2025-09-19T01:45:38.981Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3422
Merges	0

What's the feeling on moving nbench from examples-v2 to testsuites/benchmarks?

Author: Chris Johns 2018-10-14T01:01:04.000Z

- **Milestone** changed from %”5.1” to %”Indefinite”
- **Status** changed from *new* to *assigned*
- **Version** ~”5” deleted

Author: Gedare Bloom 2025-02-01T00:52:40.631Z

changed the description

Author: Gedare Bloom 2025-02-01T00:52:40.845Z

1.5.1.108 3400 - dl06 error for powerpc/qoriq_e6500 unknown machine type (opened)

Id	3400
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-04-16T22:02:21.000Z
Updated	2025-09-19T01:45:38.881Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3400
Merges	0

```
rtems-ld -r /home/joel/rtems-work/rtems-testing/rtems/build-powerpc-qoriq_e6500_64-
rtems/powerpc-rtems5/c/qoriq_e6500_64 -O rap -b dl06.pre -e rtems_main -s -o dl06.rap
dl06-o1.o dl06-o2.o -lm error: machine-type: unknown machine type: 21 gmake[5]: ***
[dl06.rap] Error 10
```

Author: Joel Sherrill 2018-04-17T13:55:09.000Z

- **Owner** set to chrisj@rtems.org
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2019-12-19T11:12:29.000Z

- **Milestone** changed from %”5.1” to %”Indefinite”
- **Owner** set to Needs Funding

Test is disabled for this BSP. It is unlikely that someone adds 64-bit PowerPC ELFv2 support to libdl.

Author: Amar Takhar 2025-09-05T03:01:11.055Z

changed the description

1.5.1.109 3399 - dl06 error for moxie unknown machine type (opened)

Id	3399
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-04-16T22:02:18.000Z
Updated	2025-09-19T01:45:38.778Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3399
Merges	0

```
gmake[5]: Entering directory `/data/home/joel/rtems-work/rtems-testing/rtems/build-
moxie-moxiesim-rtems/moxie-rtems5/c/moxiesim/testsuites/libtests'      rtems-ld      -
r      /home/joel/rtems-work/rtems-testing/rtems/build-moxie-moxiesim-rtems/moxie-
rtems5/c/moxiesim -O rap -b dl06.pre -e rtems_main -s -o dl06.rap dl06-o1.o dl06-o2.o
-lm error: machine-type: unknown machine type: 223 gmake[5]: *** [dl06.rap] Error 10
```

Author: Joel Sherrill 2018-04-17T13:54:46.000Z

- **Owner** set to chrisj@rtems.org
- **Status** changed from *new* to *assigned*

Author: Chris Johns 2018-10-19T00:20:08.000Z

- **Milestone** changed from %”5.1” to %”Indefinite”

Author: Amar Takhar 2025-09-05T03:01:10.839Z

changed the description

1.5.1.110 3372 - add tests for inttypes.h methods to RTEMS (opened)

Id	3372
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-03-26T20:26:27.000Z
Updated	2025-09-19T01:45:38.665Z
Milestone	5.4
Labels	api::posix, old-indefinite, posix::compliance, priority::low, prior- ity::normal, rtems::score, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3372
Merges	0

Original author: salsalil

These methods are defined in the POSIX standard here: <http://pubs.opengroup.org/onlinepubs/9699919799/basedefs/inttypes.h.html>

This entails the following methods:

```
intmax_t imaxabs(intmax_t); imaxdiv_t imaxdiv(intmax_t, intmax_t); intmax_t str-
toimax(const char *restrict, char **restrict, int); uintmax_t strtoumax(const char *restrict, char
**restrict, int); intmax_t wcstoimax(const wchar_t *restrict, wchar_t **restrict, int); uintmax_t
wcstoumax(const wchar_t *restrict, wchar_t **restrict, int);
```

Author: Trac Migrate 2018-03-26T22:50:21.000Z

Original author: salsalil

- **Version** ~”5” deleted

See: <http://pubs.opengroup.org/onlinepubs/007904975/basedefs/inttypes.h.html>

Author: Joel Sherrill 2018-03-27T14:52:06.000Z

Original author: salsalil

- **Description** changed

<details> <summary>Summary</summary> <pre> These methods are defined in the POSIX standard here: <http://pubs.opengroup.org/onlinepubs/9699919799/basedefs/inttypes.h.html>

This entails the following methods:

```
intmax_t imaxabs(intmax_t); imaxdiv_t imaxdiv(intmax_t, intmax_t); intmax_t str-
toimax(const char restrict, char **restrict, int); uintmax_t strtoumax(const char *re-
strict, char **restrict, int); intmax_t wcstoimax(const wchar_t *restrict, wchar_t **re-
strict, int); uintmax_t wcstoumax(const wchar_t *restrict, wchar_t **restrict, int);
</pre> </details> * Priority changed from ~”low” to ~”normal” * Summary
changed from add test suites for inttypes.h methods to RTEMS5 to add tests for int-
types.h methods to RTEMS
```

Author: Amar Takhar 2024-04-25T20:46:13.805Z

changed the description

1.5.1.111 3371 - Add `dirfd()` and `fdopendir()` methods in `dirent.h` (opened)

Id	3371
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-03-26T18:49:46.000Z
Updated	2025-09-19T01:45:38.525Z
Milestone	5.4
Labels	old-indefinite, posix::compliance, priority::low, rtems::score, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3371
Merges	1

Original author: salsalil

When added update `psxhdr` section of `psxtests/Makefile.am` to enable the existing API Compliance tests.

Author: Trac Migrate 2018-04-14T18:52:20.000Z

Original author: salsalil

These methods are defined in the POSIX standard here: <http://pubs.opengroup.org/onlinepubs/9699919799/functions/dirfd.html>

Author: Joel Sherrill 2018-12-05T17:49:10.000Z

Original author: salsalil

- **Description** changed

<details> <summary>Summary</summary> <pre> When added update `psxhdr` section of `psxtests/Makefile.am` to enable the existing API Compliance tests. </pre> </details> * **Summary** changed from *Add `dirfd()` method in `dirent.h`* to *Add `dirfd()` and `fdopendir()` methods in `dirent.h`*

Author: Trac Migrate 2018-12-05T18:01:10.000Z

Original author: salsalil

In [changeset:"9abe98b389bb29307d40697ca7a7aca15e99f328/rtems" 9abe98b3/rtems]:

```
1 testsuites/psxtests/Makefile.am: Disable psxhdrs for dirfd.c and
  ↪ fdopendir.c
2
3 updates #3371.
```

Author: Amar Takhar 2024-04-25T20:46:13.303Z

changed the description

Author: Bhuvan B 2026-02-01T16:09:55.973Z

mentioned in merge request [!978](#)

1.5.1.112 3356 - Add support for CLOCK_THREAD_CPUTIME_ID (opened)

Id	3356
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-03-19T19:23:29.000Z
Updated	2025-09-19T01:45:38.410Z
Milestone	5.4
Labels	api::posix, old-indefinite, posix::compliance, priority::normal, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3356
Merges	0

Add support for CLOCK_THREAD_CPUTIME_ID. This would impact at least clock_gettime() and clock_settime().

Author: Amar Takhar 2024-04-25T20:46:12.871Z

changed the description

1.5.1.113 3355 - RSB build error: downloading expat-2.1.0.tar.gz (opened)

Id	3355
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-03-18T05:05:29.000Z
Updated	2025-09-19T01:45:38.317Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3355
Merges	0

Original author: VidushiVashishth

On attempting to build the tool chain for the SPARC architecture the following build error is encountered: “Build: error: downloading https://github.com/libexpat/libexpat/releases/download/R_2_1_0/expat-2.1.0.tar.gz: all paths have failed, giving up ”

Manually downloading the expat tar file to the sources folder of the rsb/rtems directory circumvents the build error.

- [rsb-report-expat-2.1.0-x86_64-apple-darwin16.7.0-1.txt](#)

Author: Trac Migrate 2018-03-18T05:06:54.000Z

Original author: VidushiVashishth

- **Attachment** [rsb-report-expat-2.1.0-x86_64-apple-darwin16.7.0-1.txt](#) added

RSB error report

Author: Amar Takhar 2025-09-05T03:01:10.426Z

changed the description

1.5.1.114 3310 - zynq_uart_write_polled could produce a blocking scenario (opened)

Id	3310
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-02-21T10:10:54.000Z
Updated	2025-09-19T01:45:38.224Z
Milestone	5.4
Labels	arch:arm, bsp, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3310
Merges	0

Original author: fdpousa

The actual code for the `zynq_uart_write_polled` has a while loop inside. What could happen if a hw fault occurs? If TX buffer is always full, lower priority tasks may remain in a blocked state. The objective is to use the UART communication directly by RS232/RS422 protocol without any console.

Why is this function codified different than `zynq_uart_read_polled()`? With the `zynq_uart_read_polled` codification the blocking risks disappear if hw fails and a byte is never put in RX Buffer. I suggest to apply the same if struct to `zynq_uart_write_polled`.

Author: Amar Takhar 2024-04-25T20:46:01.435Z

changed the description

1.5.1.115 3282 - or1k GCC 4.9.3 and 5.3.0 do not build on FreeBSD 11 (opened)

Id	3282
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-01-26T14:39:55.000Z
Updated	2025-09-19T01:45:38.123Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, tool::gcc, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3282
Merges	0

Original author: sebastian.huber

```

1 /usr/include/c++/v1/exception:167:5: error: no member named 'fancy_abort' in_
  ↳ namespace 'std::__1'; did you mean simply 'fancy_abort'?
2 _VSTD::abort();
3 ^~~~~~
4 /usr/include/c++/v1/__config:390:15: note: expanded from macro '_VSTD'
5 #define _VSTD std::__LIBCPP_NAMESPACE
6 ^
7 11 warning.../gcc-4.9.3/gcc/system.h:685s generated.
8 :13: note: 'fancy_abort' declared here
9 extern void fancy_abort (const char *, int, const char *) ATTRIBUTE_NORETURN;

```

Author: Amar Takhar 2025-09-05T03:01:09.719Z

changed the description

1.5.1.116 3276 - rtems-test: Add option to consume a log file and generate a report for it (opened)

Id	3276
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2018-01-22T06:39:52.000Z
Updated	2025-09-19T01:45:37.999Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::enhancement, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3276
Merges	0

Original author: sebastian.huber

The RTEMS Tester works quite well if it can run the tests step by step. I have a board where I can run reliably all tests at once with a custom script. I cannot run tests individually due to an instability in the debug support. This produces a large text file with the test output of all tests.

It would be nice to have an option to simply feed this file to the rtems-test program and generate the report (optionally send it via e-mail).

- [tests-n2x-2017-01-19-5e3ef46a9acd3dd57ae4378c6b1e2f5ddafc604a-smp.log.xz](#)

Author: Trac Migrate 2018-01-22T06:42:21.000Z

Original author: sebastian.huber

- **Attachment** [tests-n2x-2017-01-19-5e3ef46a9acd3dd57ae4378c6b1e2f5ddafc604a-smp.log.xz](#) added

Example log file.

Author: Chris Johns 2018-10-19T00:26:55.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.1" to %"Indefinite"
- **Version** ~"5" deleted

Author: Chris Johns 2020-09-08T07:19:24.000Z

Original author: sebastian.huber

I am wondering if the lines in the log should have a timestamp prefixed to them.

Are there any requirements for the test harness obtaining the log? For example timeouts, crash recovery and tests running too long?

Author: Amar Takhar 2025-09-05T02:57:38.924Z

changed the description

1.5.1.117 3252 - Add PowerPC support for libdebugger (opened)

Id	3252
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-11-22T08:43:04.000Z
Updated	2025-09-19T01:45:37.886Z
Milestone	5.4
Labels	library, old-indefinite, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3252
Merges	0

Original author: sebastian.huber

Author: Amar Takhar 2025-09-05T03:01:09.278Z

changed the description

1.5.1.118 3241 - RSB sporadically fails when fetching rtems-tools (opened)

Id	3241
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-11-20T11:03:40.000Z
Updated	2025-09-19T01:45:37.767Z
Milestone	5.4
Labels	old-indefinite, priority::low, priority::normal, tickettype::enhancement, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3241
Merges	0

Original author: Christian Mauderer

Sporadically the rtems source builder fails with a error message like the following:

```

1 ...
2 package: rtems-tools-HEAD-1
3 git: reset: git://git.rtems.org/rtems-tools.git
4 git: fetch: git://git.rtems.org/rtems-tools.git -> sources/git/rtems-tools.git
5 error: git command failed (/usr/bin/git): 128
6 Build FAILED
7 See error report: rsb-report-rtems-tools-HEAD-1.txt
8 error: git command failed (/usr/bin/git): 128

```

(continues on next page)

(continued from previous page)

```

9 Build Set: Time 0:28:42.787936
10 Build FAILED

```

The error report in rsb-report-rtems-tools-HEAD-1.txt isn't really useful in that case:

```

1 ...
2 script: 81: build_top=$(pwd)
3 script: 82: rtems_tools_source="rtems-tools.git"
4 script: 83: source_dir_rtems_tools=${rtems_tools_source}
5 source setup: rtems-tools-HEAD-1: source rtems-tools -q -n ${rtems_tools_source}
6 making dir: /home/EB/christian_m/Projekte/grisp-software/rtems-source-builder/
  ↳ rtems/sources/git
7 git: reset: git://git.rtems.org/rtems-tools.git
8 git: fetch: git://git.rtems.org/rtems-tools.git -> sources/git/rtems-tools.git
9 error: git command failed (/usr/bin/git): 128

```

I assume that the git fetch went wrong for some reason. That's really annoying because it happens after the quite time consuming build of gcc.

Please correct me if I'm wrong but as far as I know, a download in advance wouldn't do this git command. Therefore this bug can't be triggered before the build.

I'm not that familiar with that step of the RSB but would it be possible to to download a tar.bz2-snapshot of the correct commit from our git server instead of doing a git clone? The git web interface shows a URL like the following for every commit: <https://git.rtems.org/rtems-tools/snapshot/rtems-tools-9f34b38edf2a235e8d41c3265b146b0b1a4da252.tar.bz2>

With that it would be possible to do all downloads in advance and then do the build without the risk that some download goes wrong during the build.

Author: Trac Migrate 2018-04-17T07:59:22.000Z

Original author: Christian Mauderer

- **Milestone** changed from %"Indefinite" to %"5.1"
- **Owner** set to sebastian.huber
- **Priority** changed from ~"low" to ~"normal"
- **Status** changed from *new* to *assigned*

An additional problem is that the unspecified RTEMS tools version makes the RSB tool set not reproducible (RTEMS tools version is build time dependent).

Author: Chris Johns 2018-04-17T10:24:46.000Z

Original author: Christian Mauderer

Replying to [Sebastian Huber](#):

An additional problem is that the unspecified RTEMS tools version makes the RSB tool set not reproducible (RTEMS tools version is build time dependent).

Is this to support a bisect?

I always intended to have the RSB be part of the RTEMS Tools repo however it is a lot of work for me to merge the changes in the RSB config and some other parts into the rtemstoolkit version of the modules. Another issue is all the related documentation and work flows that now exist. It is just something that got away on me and I am sorry for that.

Author: Trac Migrate 2018-04-17T11:29:08.000Z

Original author: Christian Mauderer

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

An additional problem is that the unspecified RTEMS tools version makes the RSB tool set not reproducible (RTEMS tools version is build time dependent).

Is this to support a bisect?

Yes, this is one use case.

I always intended to have the RSB be part of the RTEMS Tools repo however it is a lot of work for me to merge the changes in the RSB config and some other parts into the rtemstoolkit version of the modules. Another issue is all the related documentation and work flows that now exist. It is just something that got away on me and I am sorry for that.

I think we just have to treat the RTEMS tools like Newlib and GCC. We should specify the version explicitly.

Author: Chris Johns 2018-04-18T01:43:38.000Z

Original author: Christian Mauderer

Replying to [Sebastian Huber](#):

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

An additional problem is that the unspecified RTEMS tools version makes the RSB tool set not reproducible (RTEMS tools version is build time dependent).

Is this to support a bisect?

Yes, this is one use case.

As pointed out on the devel list newlib breaks bisecting now.

The ticket is about a git issue which is valid and stopping rtems-tools being fetched by git does not fix that issue, it just hides it. I welcome any patches related to fixing this git issue.

Author: Trac Migrate 2018-04-18T05:12:08.000Z

Original author: Christian Mauderer

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

An additional problem is that the unspecified RTEMS tools version makes the RSB tool set not reproducible (RTEMS tools version is build time dependent).

Is this to support a bisect?

Yes, this is one use case.

As pointed out on the devel list newlib breaks bisecting now.

A Newlib version update doesn't break the bisecting.

The ticket is about a git issue which is valid and stopping `rtems-tools` being fetched by git does not fix that issue, it just hides it. I welcome any patches related to fixing this git issue.

Yes, sorry. I should have opened a new bug.

Author: Trac Migrate 2018-04-18T05:12:44.000Z

Original author: Christian Mauderer

- **Milestone** changed from %"5.1" to %"Indefinite"
- **Status** changed from *assigned* to *new*
- **Version** ~"5" deleted

Author: Amar Takhar 2025-09-05T03:01:08.852Z

changed the description

1.5.1.119 3233 - Documentation has a number of warning that need fixing. (opened)

Id	3233
State	opened
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2017-11-13T00:47:58.000Z
Updated	2025-09-19T01:45:37.642Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3233
Merges	0

Adding `--sphinx-verbose="-v"` to the configure command line will produce a range of warnings. These should be reviewed and is possible and easy they should be fixed.

Author: Chris Johns 2018-10-14T01:03:55.000Z

- **Milestone** changed from %"5.1" to %"Indefinite"
- **Version** ~"5" deleted

Author: Amar Takhar 2025-09-05T03:01:08.622Z

changed the description

1.5.1.120 3214 - non-blocking termios interface (opened)

Id	3214
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-10-31T22:09:23.000Z
Updated	2025-09-19T01:45:37.416Z
Milestone	5.4
Labels	priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3214
Merges	0

Original author: stavros.passas

We face some issues with TERMIOS, when used on slow UART devices when running on RTEMS master. This was not happening before the last big refactoring of TERMIOS.

Even when the tty is blocking, `rtems_termios_write_tty` function is calling `doTransmit` with

```

1 wait = true
2 nextWait = false.

```

However in doTransmit, wait is over-written with nextWait at the end of each loop, so after one loop wait becomes false regardless if a write is blocking or non-blocking, and the function may return before writing all the characters.

I think what it is intended to be done there is to do `wait |= nextWait`, so if wait is already true, it remains true for the entire function.

- [3214-Fix-termios-blocking-interface.patch](#)

Author: Trac Migrate 2017-10-31T22:19:54.000Z

Original author: stavros.passas

- **Attachment** [3214-Fix-termios-blocking-interface.patch](#) added
proposed fix

Author: Trac Migrate 2017-10-31T22:20:19.000Z

Original author: stavros.passas

proposed fix attached.

Author: Trac Migrate 2017-11-02T10:16:19.000Z

Original author: stavros.passas

- **Cc** added @sebastian.huber, @peerst

We implemented this behaviour for the select() support. In case select() indicates a ready write to a Termios file descriptor, then it is guaranteed that we can transmit at least one character. You can use a loop around write() to transfer everything in on rush.

Author: Trac Migrate 2017-11-02T11:37:30.000Z

Original author: stavros.passas

You are right. I was hoping there is a way to differentiate between select(), and blocking and non-blocking write() calls. This way we break existing applications, even though I guess we can easily port them.

Author: Trac Migrate 2017-11-02T11:47:37.000Z

Original author: stavros.passas

Do these applications run on FreeBSD or Linux?

Author: Trac Migrate 2017-11-02T20:11:44.000Z

Original author: stavros.passas

RTEMS applications.

Author: Chris Johns 2025-09-19T01:45:37.508Z

changed the description

1.5.1.121 3208 - Update the RTEMS Porting Guide (opened)

Id	3208
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-10-25T12:58:50.000Z
Updated	2025-09-19T01:45:37.315Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3208
Merges	0

Original author: sebastian.huber

The `_RTEMS Porting Guide` is out of date and in its current state not helpful to ease the porting of RTEMS to a new architecture. Perform the following steps:

1. Enable build of the `_RTEMS Porting Guide`.
2. Disable existing content and start with a nearly empty document.
3. One step of the porting is the update of the `_RTEMS CPU Architecture Supplement`. Mentions this in the guild and move the `_PORT SPECIFIC INFORMATION` chapter to the guide.
4. Remove the `_no_cpu_` directories form the RTEMS sources and transfer the content to the guide. Mention useful example implementations.

Author: Amar Takhar 2025-09-05T03:01:08.392Z

changed the description

1.5.1.122 3206 - BSPs Wiki Page is Out of Date (opened)

Id	3206
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2017-10-25T12:47:22.000Z
Updated	2025-09-19T01:45:37.209Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3206
Merges	0

https://devel.rtems.org/wiki/TBR/Website/Board_Support_Packages is linked to from the top of the Wiki and horribly out of date.

I am not sure what to do about this page. We need a master list of BSPs somewhere. It could be updated or we have to find a way to generate an equivalent page. Given this has some historical information, automatically generating it seems hard.

Author: Chris Johns 2017-10-25T22:21:24.000Z

Release [README.txt](#) files contain a list of BSPs in that release (scroll down). It is generated automatically using the `rtems-bsp` script when the release is created.

The current definitive BSP definition is the `rtems-bsp` which learns from the source tree and:

<https://git.rtems.org/rtems-tools/tree/tester/rtems/rtems-bsps.ini>

For me a BSP only formally exists if it is in the INI files under the `rtems-tester`.

A list of BSPs is nice, a list based on the Tier structure would be nicer and a list based on the Tier structure with valid test results even better.

My hope is users of RTEMS will put pressure on those providing services to them to get their architecture and BSP moved up the tier ranks by publishing test results on build@rtems.org.

There is also Amar's django [website](#) that has support for managing BSPs however that effort needs work to straighten out some schema issues on the relationship of arch, processors and BSP that resulted from Amar and I talking at cross purposes. I am not sure what is involved and how much work is required to make this production quality. I am also not sure how we maintain this data long term if this database become active.

Author: Joel Sherrill 2017-10-25T22:25:13.000Z

I would be happy to see that page link to a list of BSPs generated for each branch. Not have the table itself.

But every time we branch, we have to add a link. I was hoping to find something that would stay accurate on its own. Generated from code. Perhaps part of the release process to have a file in the release directory? We could back populate that file and link to those.

We don't have tiers for anything beyond the next release. Could we run the script for 4.10 and 4.11 and link to that? From where to where?

Author: Chris Johns 2017-10-25T22:32:42.000Z

Replying to [Joel Sherrill](#):

We don't have tiers for anything beyond the next release. Could we run the script for 4.10 and 4.11 and link to that? From where to where?

You could `./rtems-bsp > rtems-4.11.2.txt` for the 4.11 releases and I can update the release procedure to do this automatically and have the `README.txt` link to it.

For 4.10 I suggest you copy the `rtems-bsp` to the source tree and run it. In theory you should be able to do this on a number of the older releases.

Your `sh _foo_` is better than mine so a compact list of archs before the BSP list might be a nice addition :)

Author: Trac Migrate 2017-10-26T05:40:39.000Z

I would move this information together with the BSP READMEs to the RTEMS CPU Architecture Supplement. Then I would delete this wiki page.

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Chris Johns 2018-10-14T00:59:03.000Z

- **Milestone** changed from %"5.1" to %"Indefinite"
- **Status** changed from *new* to *assigned*
- **Version** ~"5" deleted

This would make a good set of GCI tasks.

What happens to BSPs in old releases?

Author: Amar Takhar 2025-09-05T03:01:08.179Z

changed the description

1.5.1.123 3186 - rtems_print_buffer() should follow rtems_printer pattern (opened)

Id	3186
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2017-10-12T16:58:19.000Z
Updated	2025-09-19T01:45:37.109Z
Milestone	5.4
Labels	library, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3186
Merges	0

The `rtems_print_buffer()` method always uses `printf()`. It should be changed to use the `rtems_printer` pattern like `cpuuse` reports.

Documentation will need to be updated as this changes the API and adds at least one method.

Author: Joel Sherrill 2017-10-12T16:59:11.000Z

- **Description** changed

```

1 - The rtems_print_buffer() method always uses printf(). It should be_
   ↪ changed to use the rtems_printer pattern like cpuuse reports.
2 + The `rtems_print_buffer()` method always uses `printf()`. It should_
   ↪ be changed to use the rtems_printer pattern like cpuuse reports.
3 ?      +                  +                  +          +
4
5
6 Documentation will need to be updated as this changes the API and adds_
   ↪ at least one method.
```

Author: Amar Takhar 2025-09-05T03:01:06.566Z

changed the description

1.5.1.124 3156 - rtems-fdt probably not supported on 64-bit PowerPC (opened)

Id	3156
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2017-09-29T05:06:58.000Z
Updated	2025-09-19T01:45:37.002Z
Milestone	5.4
Labels	old-indefinite, priority::normal, rtems::score, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3156
Merges	0

Original author: sebastian.huber

The following warnings indicate that there are some problems on 64-bit PowerPC:

```

1 cpukit/libmisc/rtems-fdt/rtems-fdt-shell.c:488:11: warning: format '%u' expects_
  ↳ argument of type 'unsigned int', but argument 5 has type 'long int' [-Wformat=]
2 cpukit/libmisc/rtems-fdt/rtems-fdt-shell.c:536:13: warning: format '%u' expects_
  ↳ argument of type 'unsigned int', but argument 2 has type 'long int' [-Wformat=]
3 cpukit/libmisc/rtems-fdt/rtems-fdt-shell.c:57:27: warning: cast to pointer from_
  ↳ integer of different size [-Wint-to-pointer-cast]
4 cpukit/libmisc/rtems-fdt/rtems-fdt-shell.c:64:27: warning: cast to pointer from_
  ↳ integer of different size [-Wint-to-pointer-cast]
```

Author: Trac Migrate 2017-10-06T11:39:31.000Z

Original author: sebastian.huber

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

I don't know the code good enough to fix the warning/bug.

Author: Amar Takhar 2024-04-25T20:48:22.020Z

mentioned in issue [#4150](#)

Author: Amar Takhar 2025-09-05T02:57:04.794Z

changed the description

1.5.1.125 3155 - libdl not supported on 64-bit PowerPC (opened)

Id	3155
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-09-29T05:05:21.000Z
Updated	2025-09-19T01:45:36.896Z
Milestone	5.4
Labels	old-indefinite, priority::normal, rtems::score, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3155
Merges	0

Original author: sebastian.huber

There are several warnings:

```

1 cpukit/libdl/rtl-elf.c:253:46: warning: format '%lx' expects argument of type
  ↳ 'long unsigned int', but argument 4 has type 'Elf32_Word {aka unsigned int}' [-
  ↳ Wformat=]
2 cpukit/libdl/rtl-elf.c:253:64: warning: format '%lx' expects argument of type
  ↳ 'long unsigned int', but argument 6 has type 'Elf32_Word {aka const unsigned
  ↳ int}' [-Wformat=]
3 cpukit/libdl/rtl-elf.c:263:45: warning: format '%lx' expects argument of type
  ↳ 'long unsigned int', but argument 4 has type 'Elf32_Word {aka unsigned int}' [-
  ↳ Wformat=]
4 cpukit/libdl/rtl-elf.c:263:63: warning: format '%lx' expects argument of type
  ↳ 'long unsigned int', but argument 6 has type 'Elf32_Word {aka const unsigned
  ↳ int}' [-Wformat=]
5 cpukit/libdl/rtl-elf.c:307:54: warning: format '%lx' expects argument of type
  ↳ 'long unsigned int', but argument 4 has type 'Elf32_Word {aka unsigned int}' [-
  ↳ Wformat=]
6 cpukit/libdl/rtl-elf.c:320:49: warning: format '%lx' expects argument of type
  ↳ 'long unsigned int', but argument 4 has type 'Elf32_Word {aka unsigned int}' [-
  ↳ Wformat=]
7 cpukit/libdl/rtl-elf.c:87:14: warning: cast from pointer to integer of different
  ↳ size [-Wpointer-to-int-cast]
8 cpukit/libdl/rtl-elf.c:98:28: warning: cast from pointer to integer of different
  ↳ size [-Wpointer-to-int-cast]
9 cpukit/libdl/rtl-mdreloc-powerpc.c:104:17: warning: cast to pointer from integer
  ↳ of different size [-Wint-to-pointer-cast]
10 cpukit/libdl/rtl-mdreloc-powerpc.c:114:17: warning: cast to pointer from integer
  ↳ of different size [-Wint-to-pointer-cast]
11 cpukit/libdl/rtl-mdreloc-powerpc.c:123:17: warning: cast to pointer from integer
  ↳ of different size [-Wint-to-pointer-cast]
12 cpukit/libdl/rtl-mdreloc-powerpc.c:143:48: warning: cast from pointer to integer
  ↳ of different size [-Wpointer-to-int-cast]
13 cpukit/libdl/rtl-mdreloc-powerpc.c:152:43: warning: cast from pointer to integer

```

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```

↳of different size [-Wpointer-to-int-cast]
14 cpukit/libdl/rtl-mdreloc-powerpc.c:156:17: warning: cast to pointer from integer
↳of different size [-Wint-to-pointer-cast]
15 cpukit/libdl/rtl-mdreloc-powerpc.c:163:44: warning: cast from pointer to integer
↳of different size [-Wpointer-to-int-cast]
16 cpukit/libdl/rtl-mdreloc-powerpc.c:166:17: warning: cast to pointer from integer
↳of different size [-Wint-to-pointer-cast]
17 cpukit/libdl/rtl-mdreloc-powerpc.c:177:43: warning: cast from pointer to integer
↳of different size [-Wpointer-to-int-cast]
18 cpukit/libdl/rtl-mdreloc-powerpc.c:186:44: warning: format '%lu' expects argument
↳of type 'long unsigned int', but argument 2 has type 'Elf32_Word {aka const
↳unsigned int}' [-Wformat=]
19 cpukit/libdl/rtl-mdreloc-powerpc.c:186:56: warning: format '%lu' expects argument
↳of type 'long unsigned int', but argument 3 has type 'unsigned int' [-Wformat=]
20 cpukit/libdl/rtl-mdreloc-powerpc.c:189:15: warning: cast to pointer from integer
↳of different size [-Wint-to-pointer-cast]
21 cpukit/libdl/rtl-mdreloc-powerpc.c:189:39: warning: cast to pointer from integer
↳of different size [-Wint-to-pointer-cast]
22 cpukit/libdl/rtl-mdreloc-powerpc.c:191:63: warning: format '%ld' expects argument
↳of type 'long int', but argument 4 has type 'unsigned int' [-Wformat=]
23 cpukit/libdl/rtl-mdreloc-powerpc.c:63:17: warning: cast to pointer from integer
↳of different size [-Wint-to-pointer-cast]
24 cpukit/libdl/rtl-mdreloc-powerpc.c:92:17: warning: cast to pointer from integer
↳of different size [-Wint-to-pointer-cast]
25 cpukit/libdl/rtl-obj.c:782:61: warning: format '%lx' expects argument of type
↳'long unsigned int', but argument 6 has type 'uint32_t {aka unsigned int}' [-
↳Wformat=]
26 cpukit/libdl/rtl-obj.c:782:67: warning: format '%lu' expects argument of type
↳'long unsigned int', but argument 7 has type 'uint32_t {aka unsigned int}' [-
↳Wformat=]
27 cpukit/libdl/rtl-rap.c:214:35: warning: format '%lu' expects argument of type
↳'long unsigned int', but argument 3 has type 'uint32_t {aka unsigned int}' [-
↳Wformat=]
28 cpukit/libdl/rtl-rap.c:269:49: warning: format '%lx' expects argument of type
↳'long unsigned int', but argument 3 has type 'uint32_t {aka unsigned int}' [-
↳Wformat=]
29 cpukit/libdl/rtl-rap.c:318:33: warning: format '%lx' expects argument of type
↳'long unsigned int', but argument 3 has type 'uint32_t {aka unsigned int}' [-
↳Wformat=]
30 cpukit/libdl/rtl-rap.c:318:44: warning: format '%lu' expects argument of type
↳'long unsigned int', but argument 4 has type 'uint32_t {aka unsigned int}' [-
↳Wformat=]
31 cpukit/libdl/rtl-rap.c:318:55: warning: format '%lu' expects argument of type
↳'long unsigned int', but argument 5 has type 'uint32_t {aka unsigned int}' [-
↳Wformat=]
32 cpukit/libdl/rtl-rap.c:334:20: warning: cast from pointer to integer of different
↳size [-Wpointer-to-int-cast]
33 cpukit/libdl/rtl-rap.c:374:20: warning: cast from pointer to integer of different
↳size [-Wpointer-to-int-cast]

```

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```

34 cpukit/libdl/rtl-rap.c:389:19: warning: format '%lu' expects argument of type
   ↳ 'long unsigned int', but argument 7 has type 'Elf32_Word {aka unsigned int}' [-
   ↳ Wformat=]
35 cpukit/libdl/rtl-rap.c:389:19: warning: format '%lx' expects argument of type
   ↳ 'long unsigned int', but argument 8 has type 'Elf32_Word {aka unsigned int}' [-
   ↳ Wformat=]
36 cpukit/libdl/rtl-rap.c:389:48: warning: format '%lu' expects argument of type
   ↳ 'long unsigned int', but argument 4 has type 'uint32_t {aka unsigned int}' [-
   ↳ Wformat=]
37 cpukit/libdl/rtl-rap.c:409:19: warning: format '%lu' expects argument of type
   ↳ 'long unsigned int', but argument 6 has type 'Elf32_Word {aka unsigned int}' [-
   ↳ Wformat=]
38 cpukit/libdl/rtl-rap.c:409:19: warning: format '%lx' expects argument of type
   ↳ 'long unsigned int', but argument 7 has type 'Elf32_Word {aka unsigned int}' [-
   ↳ Wformat=]
39 cpukit/libdl/rtl-rap.c:409:47: warning: format '%lu' expects argument of type
   ↳ 'long unsigned int', but argument 4 has type 'uint32_t {aka unsigned int}' [-
   ↳ Wformat=]
40 cpukit/libdl/rtl-rap.c:614:42: warning: format '%lx' expects argument of type
   ↳ 'long unsigned int', but argument 2 has type 'uint32_t {aka unsigned int}' [-
   ↳ Wformat=]
41 cpukit/libdl/rtl-rap.c:614:55: warning: format '%lx' expects argument of type
   ↳ 'long unsigned int', but argument 3 has type 'uint32_t {aka unsigned int}' [-
   ↳ Wformat=]
42 cpukit/libdl/rtl-rap.c:614:69: warning: format '%lx' expects argument of type
   ↳ 'long unsigned int', but argument 4 has type 'uint32_t {aka unsigned int}' [-
   ↳ Wformat=]
43 cpukit/libdl/rtl-rap.c:643:64: warning: format '%lu' expects argument of type
   ↳ 'long unsigned int', but argument 3 has type 'uint32_t {aka unsigned int}' [-
   ↳ Wformat=]
44 cpukit/libdl/rtl-rap.c:819:40: warning: format '%lu' expects argument of type
   ↳ 'long unsigned int', but argument 2 has type 'uint32_t {aka unsigned int}' [-
   ↳ Wformat=]
45 cpukit/libdl/rtl-rap.c:826:38: warning: format '%lu' expects argument of type
   ↳ 'long unsigned int', but argument 2 has type 'uint32_t {aka unsigned int}' [-
   ↳ Wformat=]
46 cpukit/libdl/rtl-rap.c:838:35: warning: format '%lu' expects argument of type
   ↳ 'long unsigned int', but argument 2 has type 'uint32_t {aka unsigned int}' [-
   ↳ Wformat=]
47 cpukit/libdl/rtl-rap.c:850:32: warning: format '%lu' expects argument of type
   ↳ 'long unsigned int', but argument 2 has type 'uint32_t {aka unsigned int}' [-
   ↳ Wformat=]
48 cpukit/libdl/rtl-rap.c:867:39: warning: format '%lu' expects argument of type
   ↳ 'long unsigned int', but argument 2 has type 'uint32_t {aka unsigned int}' [-
   ↳ Wformat=]
49 cpukit/libdl/rtl-rap.c:888:39: warning: format '%lu' expects argument of type
   ↳ 'long unsigned int', but argument 2 has type 'uint32_t {aka unsigned int}' [-
   ↳ Wformat=]
50 cpukit/libdl/rtl-rap.c:888:44: warning: format '%lu' expects argument of type

```

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```

↪ 'long unsigned int', but argument 3 has type 'uint32_t {aka unsigned int}' [-
↪ Wformat=]
51 cpukit/libdl/rtl-rap.c:888:56: warning: format '%lu' expects argument of type
↪ 'long unsigned int', but argument 4 has type 'uint32_t {aka unsigned int}' [-
↪ Wformat=]
52 cpukit/libdl/rtl-rap.c:888:67: warning: format '%lu' expects argument of type
↪ 'long unsigned int', but argument 5 has type 'uint32_t {aka unsigned int}' [-
↪ Wformat=]
53 cpukit/libdl/rtl-rap.c:916:45: warning: format '%lu' expects argument of type
↪ 'long unsigned int', but argument 2 has type 'uint32_t {aka unsigned int}' [-
↪ Wformat=]
54 cpukit/libdl/rtl-rap.c:946:37: warning: format '%lu' expects argument of type
↪ 'long unsigned int', but argument 3 has type 'uint32_t {aka unsigned int}' [-
↪ Wformat=]
55 cpukit/libdl/rtl-rap.c:946:47: warning: format '%lu' expects argument of type
↪ 'long unsigned int', but argument 4 has type 'uint32_t {aka unsigned int}' [-
↪ Wformat=]
56 cpukit/libdl/rtl-rap.c:968:40: warning: format '%lu' expects argument of type
↪ 'long unsigned int', but argument 2 has type 'uint32_t {aka unsigned int}' [-
↪ Wformat=]
57 cpukit/libdl/rtl-rap.c:975:39: warning: format '%lu' expects argument of type
↪ 'long unsigned int', but argument 2 has type 'uint32_t {aka unsigned int}' [-
↪ Wformat=]
58 cpukit/libdl/rtl-shell.c:217:34: warning: format '%lu' expects argument of type
↪ 'long unsigned int', but argument 4 has type 'uint32_t {aka unsigned int}' [-
↪ Wformat=]

```

Due to vast ABI differences between 32-bit and 64-bit PowerPC it is unlikely that libdl is supported on PowerPC.

Author: Chris Johns 2017-10-03T04:57:06.000Z

Original author: sebastian.huber

Replying to [Sebastian Huber](#):

Due to vast ABI differences between 32-bit and 64-bit PowerPC it is unlikely that libdl is supported on PowerPC.

Do you mean PowerPC 64bit or any PowerPC?

What do you propose?

Author: Trac Migrate 2017-10-03T06:13:50.000Z

Original author: sebastian.huber

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

Due to vast ABI differences between 32-bit and 64-bit PowerPC it is unlikely that libdl is supported on PowerPC.

Do you mean PowerPC 64bit or any PowerPC?

64-bit PowerPC.

What do you propose?

We can probably fix the warnings with a small amount of work, however, a real 64-bit support is probably some more work.

Author: Chris Johns 2017-10-03T23:10:57.000Z

Original author: sebastian.huber

Replying to [Sebastian Huber](#):

Replying to [Chris Johns](#):

What do you propose?

We can probably fix the warnings with a small amount of work, however, a real 64-bit support is probably some more work.

Fixing the warning is a good idea. Yes there are some spots that need to be fixed. The host side for 64bit and 32bit support needs some changes and the RAP format would need some work.

Author: Trac Migrate 2017-10-06T07:14:43.000Z

Original author: sebastian.huber

I guess this prototype is wrong

```

1 bool
2 rtems_rtl_elf_find_symbol (rtems_rtl_obj_t* obj,
3 const Elf_Sym*    sym,
4 const char*       symname,
5 Elf_Word*         value)

```

It should probably be Elf_Addr *value.

Author: Trac Migrate 2017-10-06T10:47:07.000Z

Original author: sebastian.huber

In [\[changeset:"4e38aed00588b77fd326854d78889447e7120e86/rtems"4e38aed/rtems\]](#):

```

1 libdl: Use 64-bit ELF on 64-bit targets
2
3 Update #3155.

```

Author: Trac Migrate 2017-10-06T10:47:19.000Z

Original author: sebastian.huber

In [changeset:"8bdbefedd526763cdf0d8a6f30d22919a4096258/rtems" 8bdbefe/rtems]:

```
1 libdl: Fix warnings
2
3 Update #3155.
```

Author: Chris Johns 2017-10-07T00:07:22.000Z

Original author: sebastian.huber

Replying to [Sebastian Huber](#):

I guess this prototype is wrong {{{ bool rtems_rtl_elf_find_symbol (rtems_rtl_obj_t* obj, const Elf_Sym* sym, const char* symname, Elf_Word* value) }}} It should probably be Elf_Addr *value.

Yes I agree. Once you highlight this it makes perfect sense. Thank you for taking the time to fix these issues.

Author: Amar Takhar 2025-09-05T03:02:40.099Z

changed the description

1.5.1.126 3154 - Add recovery support for I2C bus (opened)

Id	3154
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-09-28T09:02:44.000Z
Updated	2025-09-19T01:45:36.780Z
Milestone	5.4
Labels	old-indefinite, priority::normal, rtems::score, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3154
Merges	0

Original author: sebastian.huber

FreeBSD has a recovery support for the I2C bus. Port this to RTEMS and use it in the I2C bus drivers.

https://svnweb.freebsd.org/base/head/sys/dev/iicbus/iic_recover_bus.c?view=markup

Author: Chris Johns 2017-10-03T05:26:12.000Z

Original author: sebastian.huber

Looks good. I am not sure how this could be down with the Xilinx I2C controller.

How or when is this invoked?

Author: Trac Migrate 2017-10-03T06:18:48.000Z

Original author: sebastian.huber

Its invoked by the bus driver in case of timeouts or after arbitration problems. You need control over the lines via GPIO.

I have no plans to implement this now, but it might be useful for some applications.

Author: Amar Takhar 2025-09-05T03:02:39.833Z

changed the description

1.5.1.127 3151 - Should Tests Be Added to .tcfg file Which Only Fail to Link with RTEMS Debug is Enabled? (opened)

Id	3151
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2017-09-21T23:34:50.000Z
Updated	2025-09-19T01:45:36.573Z
Milestone	5.4
Labels	priority::normal, rtems::testing, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3151
Merges	0

A recent build sweep with RTEMS debug enabled shows a number of BSPs which fail to build all tests which do when RTEMS debug is disabled. The stance by the RTEMS Project to these failures needs to be formally decided. I see a few options:

- Do nothing
- Add them to .tcfg
- Add a special mode for “fails in debug mode” to .tcfg

I hate to see us with BSPs not building. This is just a bad thing to do.

I hate to add them to .tcfg when they do link in normal build mode since this would reduce testing.

The third option is the best but it would require adding another keyword to the .tcfg syntax and require modifying the processing of those files. But it seems like the best option.

Comments welcomed.

Author: Joel Sherrill 2017-09-21T23:35:56.000Z

- **Summary** changed from *Shuold Tests Be Added to .tcfg file Which Only Fail to Link with RTEMS Debug is Enabled?* to *Should Tests Be Added to .tcfg file Which Only Fail to Link with RTEMS Debug is Enabled?*

Author: Chris Johns 2017-09-22T00:15:53.000Z

It would mean some attribute, tag or grouping would need to be added to the .tcfg files. The .tcfg processing is now in Python so this makes that side of things easier to implement. I suggest we add groupings. For example:

```

1 [default]
2 exclude: fileio
3 exclude: cdtest
4 exclude: iostream
5 exclude: flashdisk01
6
7 [debug]
8 exclude: jffs2_fspermission
9 exclude: jffs2_fsrdwr
10
11 [smp]
12 exclude: pppd
13
14 [smp-debug]
15 exclude: utf8proc01

```

There are some issues we need to decide on or solve:

1. Which build options do we create variants for? We should formalize these.
2. How would combinations of variant options be handled? For example is a test in the debug group not built for any //debug// variant such as smp-debug? 2. How do we perform the make level processing in [testsuites/automake/subdirs.am](https://git.rtems.org/rtems-tools/tree/tester/rtems/rtems-bsps.ini#n138) to create a suitable list of variants?

Author: Chris Johns 2017-09-22T00:18:26.000Z

I should also point out the rtems-bsp-builder has a concept of //variants// here <https://git.rtems.org/rtems-tools/tree/tester/rtems/rtems-bsps.ini#n138>.

Author: Chris Johns 2025-09-19T01:45:36.649Z

changed the description

1.5.1.128 3150 - SP 51 Test failure on Beaglebone Black (opened)

Id	3150
State	opened
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2017-09-21T07:30:17.000Z
Updated	2025-09-19T01:45:36.430Z
Milestone	5.4
Labels	bsp:beaglebone, old-indefinite, priority::normal, rtems::score, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3150
Merges	0

Running rtems-test with a recent u-boot and a current master this failure is reported:

```

1 ] RTEMS Beagleboard: am335x-based
2 ]
3 ]
4 ] *** BEGIN OF TEST SP 51 ***
5 ] Create semaphore - priority ceiling unlocked - invalid ceiling
6 ] Create semaphore - priority ceiling locked - violate ceiling
7 ] Create semaphore - priority ceiling unlocked
8 ] Obtain semaphore -- violate ceiling
9 ] Release semaphore we did not obtain
10 ] /opt/work/chris/rtems/kernel/rtems.git/c/src/../../testsuites/sptests/sp51/init.
    ↪ c: 41 sc == RTEMS_SUCCESSFUL

```

Author: Amar Takhar 2024-04-25T20:45:51.497Z

changed the description

1.5.1.129 3149 - SP 37 Test failure on Beaglebone Black (opened)

Id	3149
State	opened
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2017-09-21T07:26:18.000Z
Updated	2025-09-19T01:45:36.299Z
Milestone	5.4
Labels	bsp:beaglebone, old-indefinite, priority::normal, rtems::score, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3149
Merges	0

Running rtems-test with a recent u-boot and a current master this failure is reported:

```

1 ] RTEMS Beagleboard: am335x-based
2 ]
3 ]
4 ] *** BEGIN OF TEST SP 37 ***
5 ] clock_tick from task level
6 ] Blocking task... suspending self
7 ] clock_tick from task level with preempt -- OK
8 ] interrupt is in progress (use body)
9 ] interrupt disable (use inline)
10 ] interrupt flash (use inline)
11 ] interrupt enable (use inline)
12 ] interrupt level mode (use inline)
13 ] test case working..
14 ] interrupt disable (use body)

```

then a reset.

Author: Joel Sherrill 2017-09-21T15:35:44.000Z

Works on erc32 and psim Fails on jmr3904 and xilinx_zynq_a9_qemu

The two failures are difference. On the MIPS, the issue is that `_ISR_Get_level()` is not returning the value that was set immediately above. I am guessing that the `_ISR_Set_level()` for the mips and arm ports translates the requested level into a register setting and then doesn't reverse the translation on the `_ISR_Get_level()`.

The code in question is around line 130 with a `printf()` added to show the value:

```

_ISR_Level current = 0; _ISR_Level last_proper_level;

_ISR_Set_level( current ); printf( "_ISR_Get_Level()=0x%08x current=0x%08xn",
_ISR_Get_level(), current ); rtems_test_assert( _ISR_Get_level() == current );

```

jmr3904 output

```

** BEGIN OF TEST SP 37 *** _ISR_Get_Level()=0x0000007f cur-
rent=0x00000000 ../../../rtems/c/src/../../testsuites/sptests/sp37/init.c:
133 _ISR_Get_level() == current

```

On the ARM, it is failing calling the body version of `rtems_interrupt_disable()` in `rtems/src/intr.c`. No obvious failure looking at the code.

Author: Amar Takhar 2024-04-25T20:45:51.058Z

changed the description

1.5.1.130 3147 - DEBUGGER01 Test failure on Beaglebone Black (opened)

Id	3147
State	opened
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-09-21T06:23:31.000Z
Updated	2025-09-19T01:45:36.148Z
Milestone	5.4
Labels	bsp:beaglebone, old-indefinite, priority::normal, rtems::score, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3147
Merges	0

Running rtems-test with a recent u-boot and a current master this failure is reported:

```

1 ] RTEMS Beagleboard: am335x-based
2 ]
3 ]
4 ] *** BEGIN OF TEST DEBUGGER01 ***
5 ] error: rtems-db: remote not found: test
6 ] [CPU:0] error: rtems-db: test remote: begin
7 ] [CPU:0] rtems-db: remote-debug is on
8 ] [CPU:0] rtems-db: remote running
9 ] [CPU:0] rtems-db: test remote: isconnected: not-connected
10 ] [CPU:0] error: rtems-db: test remote: connect
11 ] [CPU:0] rtems-db: remote running
12 ] [CPU:0] rtems-db: arm debug: (v4.2) ARMv7 [v7, baseline CP14 registers]
    ↳ breakpoints:5 watchpoints:1
13 ]
14 ] R0  = 0x0000005C R8  = 0x00000000
15 ] R1  = 0x00000000 R9  = 0x00000000
16 ] R2  = 0x00000003 R10 = 0x00000000
17 ] R3  = 0x03078002 R11 = 0x80103778
18 ] R4  = 0x801029A8 R12 = 0x801029AC
19 ] R5  = 0x00000002 SP  = 0x8010CC90
20 ] R6  = 0x80114950 LR  = 0x80015388
21 ] R7  = 0x00000000 PC  = 0x800153CC
22 ] CPSR = 0x20000113 VEC = 0x00000001

```

Author: Joel Sherrill 2017-09-21T15:38:13.000Z

This is not reported as a failure on erc32, jmr3904, psim, and xilinx_zynq_a9_qemu.

Author: Chris Johns 2017-09-21T23:32:50.000Z

Replying to [Joel Sherrill](#):

This is not reported as a failure on erc32, jmr3904, psim, and xilinx_zynq_a9_qemu.

I suspect it is specific to the ARM on the BBB. I will take care of this one.

Author: Amar Takhar 2024-04-25T20:45:50.169Z

changed the description

1.5.1.131 3146 - FSJFFS2GC Test failure on Beaglebone Black (opened)

Id	3146
State	opened
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2017-09-21T06:19:05.000Z
Updated	2025-09-19T01:45:35.990Z
Milestone	5.4
Labels	bsp:beaglebone, filesystem, old-indefinite, priority::normal, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3146
Merges	0

Running rtems-test with a recent u-boot and a current master this failure is reported:

```
1 ] RTEMS Beagleboard: am335x-based
2 ]
3 ]
4 ] *** BEGIN OF TEST FSJFFS2GC 1 ***
5 ] Initializing filesystem JFFS2
6 ] /opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../testsuites/fstests/
  ↳ fsjffs2gc01/init.c: 284 memcmp(&info, &info_after_first_gc, sizeof(*&info)) == 0
```

Author: Joel Sherrill 2017-09-21T15:36:57.000Z

This works on erc32, jmr3904, psim, and xilinx_zynq_a9_qemu.

Author: Amar Takhar 2024-04-25T20:45:49.662Z

changed the description

1.5.1.132 3131 - Move more implementation details of mmap() to the file handlers (opened)

Id	3131
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-09-12T06:20:24.000Z
Updated	2025-09-19T01:45:35.833Z
Milestone	5.4
Labels	filesystem, old-indefinite, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3131
Merges	0

Original author: sebastian.huber

The mmap() implementation contains too many conditionals. It doesn't follow the object oriented design of the file system layer. The mmap() is basically a factory. The mmap_h handler should construct a mapping object. A destructor is currently missing. Maybe the mmap_h handler should use a flag to deal with construction and destruction.

As a first step, pass the flags to the mmap_h handler and add a special flag to indicate an unmap. Use it in unmap() to destroy the mapping.

```
1 #define RTEMS_FILESYSTEM_MAP_UNMAP 0x8000
```

Add a static assert to ensure that RTEMS_FILESYSTEM_MAP_UNMAP is distinct to all other MAP flags used by RTEMS.

Author: Amar Takhar 2025-09-05T03:02:39.631Z

changed the description

1.5.1.133 3118 - fdt-shell uses char as index, gets warnings (opened)

Id	3118
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2017-08-27T16:07:24.000Z
Updated	2025-09-19T01:45:35.554Z
Milestone	5.4
Labels	priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3118
Merges	0

The comments in ctype.h indicate that the argument to methods like isdigit() should be an integer containing a char. These warnings indicate that a char is directly being passed. This

warning is only showing up on the or1k and epiphany but both have the current newlib.

```
warnings/warnings-4.12-master-20170827a/warnings-all-4.12-master-
20170827a.txt:log/or1k-generic_or1k.log:../../../../rtems/c/src/../../../../cpukit/libmisc/rtems-
fdt/rtems-fdt-shell.c:341:3: warning: array subscript has type 'char' [-Wchar-
subscripts] warnings/warnings-4.12-master-20170827a/warnings-all-4.12-master-
20170827a.txt:log/or1k-generic_or1k.log:../../../../rtems/c/src/../../../../cpukit/libmisc/rtems-
fdt/rtems-fdt-shell.c:383:3: warning: array subscript has type 'char' [-Wchar-
subscripts] warnings/warnings-4.12-master-20170827a/warnings-all-4.12-master-
20170827a.txt:log/or1k-generic_or1k.log:../../../../rtems/c/src/../../../../cpukit/libmisc/rtems-
fdt/rtems-fdt-shell.c:429:3: warning: array subscript has type 'char' [-Wchar-
subscripts] warnings/warnings-4.12-master-20170827a/warnings-all-4.12-master-
20170827a.txt:log/or1k-generic_or1k.log:../../../../rtems/c/src/../../../../cpukit/libmisc/rtems-
fdt/rtems-fdt-shell.c:476:3: warning: array subscript has type 'char' [-Wchar-subscripts]
```

Author: Joel Sherrill 2017-08-27T16:07:38.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Chris Johns 2025-09-19T01:45:35.680Z

changed the description

1.5.1.134 3110 - libbsd: openssl contains architecture-specific files (opened)

Id	3110
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-08-23T08:52:22.000Z
Updated	2025-09-19T01:45:35.444Z
Milestone	5.4
Labels	libbsd, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3110
Merges	0

Original author: sebastian.huber

The following files are ARM-specific:

- freebsd/crypto/openssl/crypto/arm_arch.h
- freebsd/crypto/openssl/crypto/armcap.c

Are this the only architecture-specific files? Do they work on RTEMS? How to test this?

Author: Trac Migrate 2017-08-23T08:55:20.000Z

Original author: sebastian.huber

In [changeset:"885ac75710f810ea766491304b2c511816c26479/rtems-libbsd"885ac75/rtems-libbsd]:

```
1 openssl: Workaround for ARM-specific files
2
3 Update #3110.
```

Author: Amar Takhar 2025-09-05T03:02:39.429Z

changed the description

1.5.1.135 3106 - Rate monotonic and timer delete broken in SMP configurations (opened)

Id	3106
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-08-22T15:28:06.000Z
Updated	2025-09-19T01:45:35.339Z
Milestone	5.4
Labels	old-indefinite, priority::normal, smp, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3106
Merges	0

Original author: sebastian.huber

In case a rate monotonic or timer object is deleted and the corresponding timer handler executes currently on another processor, then this may lead to a use after free condition. This could lead to a corrupt watchdog handler state with unpredictable effects.

Author: Amar Takhar 2025-09-05T03:01:05.956Z

changed the description

1.5.1.136 3081 - gcc 7.1 fails to build in TrueOS (aka FreeBSD 12-CURRENT #66 git ac2f0aa3b) (opened)

Id	3081
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-07-21T15:34:17.000Z
Updated	2025-09-19T01:45:35.234Z
Milestone	5.4
Labels	old-indefinite, priority::normal, tickettype::defect, tool::gcc, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3081
Merges	0

Original author: dinsdale

The RTEMS source build fails when run on FBSD 12-CURRENT as of July 17. I cannot seem to provide more resolution in the build number as this is rolling release TrueOS (I'll work on that).

gcc 7.1 fails to build when running 12-CURRENT kernel and userland. The issue is in the file options.h (I THINK the file is ./rsb/rtems/build/sparc-rtems4.12-gcc-7.1.0-newlib-2.5.0.20170623-x86_64-freebsd12.0-1/build/gcc/options.h). An example of the issue is (full report attached):

```
./options.h:5541:3: error: redefinition of enumerator 'OPT_d' OPT_d = 123, /* -d / ^ ./options.h:5539:3: note: previous definition is here OPT_d = 121, / -d */ ^
```

When run in a jail of 11.0-RELEASE on 12-CURRENT host, the build still thinks it's in 12 (pulls info from kernel) but builds SUCCESSFULLY.

- [options.h](#)
- [rsb-report-sparc-rtems4.12-gcc-7.1.0-newlib-2.5.0.20170623-x86_64-freebsd12.0-1.txt](#)

Author: Trac Migrate 2017-07-21T15:35:33.000Z

Original author: dinsdale

- **Attachment** [options.h](#) added

options.h file from FAILED build

Author: Trac Migrate 2017-07-21T15:37:11.000Z

Original author: dinsdale

- **Attachment** [rsb-report-sparc-rtems4.12-gcc-7.1.0-newlib-2.5.0.20170623-x86_64-freebsd12.0-1.txt](#) added

rsb report from failed build of gcc 7.1 on FreeBSD 12-CURRENT

Author: Trac Migrate 2017-07-23T21:24:58.000Z

Original author: dinsdale

I thought I had added this comment already, but I don't see it. There was some resolution to this issue on the FreeBSD forum:

<https://forums.freebsd.org/threads/54172/>

I tried setenv LC_COLLATE C ...

and tried sudo env LC_COLLATE="C" ...

both with the same failed result as building without attempting to set this.

Not sure where to go with this issue. It seems to have “suddenly appeared” in my 11-release jail that I had *thought* previously worked.

Author: Amar Takhar 2024-04-25T20:45:46.555Z

changed the description

1.5.1.137 3078 - Section 5.1. Prefixes is difficult to interpret (opened)

Id	3078
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-07-19T05:54:00.000Z
Updated	2025-09-19T01:45:35.131Z
Milestone	5.4
Labels	doc, old-indefinite, priority::low, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3078
Merges	0

Original author: dinsdale

Hi, I'm going through the documentation and trying to build rtems. I'm having difficulty understanding the section on Prefixes. Chris Johns created a follow up email to my questions on the mailing list which clarifies why that section is difficult to document. Upon retrospect with his explanation in mind, the section makes sense???

I'm going to read it again tomorrow morning. However, my feeling tonight is that perhaps it should say “tldr; setting the -prefix sets the output directory for the RSB” and then have a link to something more elaborate like what CJ said.

Thanks for listening! Russell

Author: Amar Takhar 2025-09-05T03:01:05.769Z

changed the description

1.5.1.138 3050 - Buffer Overflow in pc386 Video Driver (opened)

Id	3050
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2017-06-14T14:32:10.000Z
Updated	2025-09-19T01:45:34.862Z
Milestone	5.4
Labels	bsp, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3050
Merges	0

./.././.././.././.././../rtems/c/src/lib/libbsp/i386/pc386/console/fb_vesa_rm.c:117:9: warning: 'strncpy' writing 16 bytes into a region of size 4 overflows the destination [-Wstringop-overflow=]

Looking at the code, it looks suspicious. Passing to Pavel for some insight.

- [0001-i386-pc386-VESA-fb-copy-the-length-of-VBE-signature-.patch](#)

Author: Joel Sherrill 2017-06-14T14:32:27.000Z

- **Owner** set to ppisa
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-06-15T18:24:51.000Z

- **Attachment** [0001-i386-pc386-VESA-fb-copy-the-length-of-VBE-signature-.patch](#) added

Patch prepared by Jan Dolezal to solve the warning/problem.

Author: Trac Migrate 2017-06-15T18:26:18.000Z

I have send question to Jan Dolezal and he prepared patch. I can commit it but not test till month end.

Author: Chris Johns 2025-09-19T01:45:34.922Z

changed the description

1.5.1.139 3039 - ppc/qemuprep: Qemu fails to boot, no boot partition found (opened)

Id	3039
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-06-12T11:05:38.000Z
Updated	2025-09-19T01:45:34.760Z
Milestone	5.4
Labels	bsp, old-indefinite, priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3039
Merges	0

Original author: cpod

PowerPC/qemuprep bsp fails to boot as no boot partition can be found tried with:

```
qemu-system-ppc -no-reboot -monitor null -serial stdio -nographic -net
none -M prep -kernel $HOME/development/rtems/qemuprep/powerpc-
rtems4.12/c/qemuprep/testsuites/samples/hello/hello.exe
```

and also tried to boot from floppy:

```
qemu-system-ppc -boot a -fda ./rtems-boot.img -m 20MB -append "console=/dev/com1"
-serial stdio -no-reboot -kernel $HOME/development/rtems/qemuprep/powerpc-
rtems4.12/c/qemuprep/testsuites/samples/hello/hello.exe
```

seems to ignore this boot option, also hangs at the end and does not exit

```
qemu-system-ppc -no-reboot -monitor null -serial stdio -nographic -net
none -M prep -kernel $HOME/development/rtems/qemuprep/powerpc-
rtems4.12/c/qemuprep/testsuites/samples/hello/hello.exe register PCI host 'pci-bridge' 'pci'
'<null>' 'PREP Host PCI Bridge - Motorola Raven' register 'pci-bridge' 'pci' '
'<null>' 'PREP Host PCI Bridge - Motorola Raven' 0x80000000 in 'device-tree' 0xffffffff Done 582b000 582b880
PCI device '
'<null>' 0 11 0 has no reg properties: PCI device '
'<null>' 0 11 0 has no assigned addresses properties: register pci device 'Qemu VGA' 0000000d 'display' 'VGA' 'Qemu VGA'
register 'Qemu VGA' 'display' 'VGA' 'Qemu VGA' 0x0000000d in 'pci-bridge' 0x80000000 Done 582b880 582b980
PCI device 'Qemu VGA' 0 13 0 reg properties: addr: 82006810 00000000 f0000000 size: 00000000 01000000
addr: 82006818 00000000 f1000000 size: 00000000 00010000
PCI device 'Qemu VGA' 0 13 0 assigned addresses properties: addr: 82006810 00000000 f0000000 size: 00000000 01000000
addr: 82006818 00000000 f1000000 size: 00000000 00010000
PPC Open Hack'Ware BIOS for qemu version 0.4.1 Build 2014-07-04 15:23:25 Copyright 2003-2005 Jocelyn Mayer
```

```
Memory size: 128 MB. Booting from device m ide0: drive 0: none ide0: drive 1: none ide1:
drive 0: CD-ROM ERROR: OF_property_copy cannot get property 'cd' for aliases ERROR: ATAPI
TEST_UNIT_READY : status 58 != 0x08 ERROR: ATAPI TEST_UNIT_READY : status 41 != 0x40
ide1: drive 1: none Probe partitions for device m ERROR: No MSDOS signature (38 0 0 0) Use
bloc device as raw partition Boot partition: 0 9401fff8 9401fff8 0 ERROR: OF_property_copy
cannot get property 'alias' for <null> boot device: 5832000 image 1000000 size 4599176
ERROR: No MSDOS signature (7f 45 0 0) Use bloc device as raw partition Boot partition: 0
9401fff8 9401fff8 0 boot device: 5832000 ERROR: Found no boot partition! ERROR: BUG
```

caught... BIOS execution exception nip=0x05800000 msr=0x00002000 dar=0x00000000 dsisr=0x00000000 Stopping execution qemu: terminating on signal 2

Author: Trac Migrate 2017-06-15T09:27:51.000Z

Original author: cpod

- **Milestone** set to %”Indefinite”

Author: Amar Takhar 2025-09-05T03:02:38.768Z

changed the description

1.5.1.140 4985 - Build error: building srg9xwm1 (opened)

Id	4985
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2024-01-30T21:51:25.000Z
Updated	2024-10-06T21:57:58.281Z
Milestone	5.4
Labels	priority::normal, rtems::build, tickettype::defect, tool::gdb, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4985
Merges	0

Original author: qwertyspark

I am attempting to build the RTEMS 5.3 toolset on Windows using MSYS2 with mingw64. I have been following the quick-start guide in the 5.3 user guide.

I have included a source builder error report for reference.

```

1 I entered the following command to initiate the build:
2 {{{#!python
3 ../source-builder/sb-set-builder --prefix=C:/msys64/home/<REDACT>/quick-start/
  ↪ rtems/5 5/rtems-sparc
4 }}}

```

The build progressed as expected until building gdb-9.1.

```

1 The error report indicated the following error:
2 {{{#!python
3 ../../gdb-9.1/gdb/completer.c: In function 'char* gdb_completion_word_break_
  ↪ characters_throw()':
4
5 ../../gdb-9.1/gdb/completer.c:1933:10: error: invalid conversion from 'const char*
  ↪ ' to 'char*' [-fpermissive]
6

```

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```

7 1933 |   return rl_completer_word_break_characters;
8
9 |           ^~~~~~
10
11 |           |
12
13 |           const char*
14 }}}

```

Here is the referenced section of code from completer.c. Specifically “return rl_completer_word_break_characters;”

```

1 const char *
2 gdb_completion_word_break_characters_throw ()
3 {
4 /* New completion starting. Get rid of the previous tracker and
5 start afresh. */
6 delete current_completion.tracker;
7 current_completion.tracker = new completion_tracker ();
8
9 completion_tracker &tracker = *current_completion.tracker;
10
11 complete_line_internal (tracker, NULL, rl_line_buffer,
12 rl_point, handle_brkchars);
13
14 if (tracker.use_custom_word_point ())
15 {
16 gdb_assert (tracker.custom_word_point () > 0);
17 rl_point = tracker.custom_word_point () - 1;
18
19 gdb_assert (rl_point >= 0 && rl_point < strlen (rl_line_buffer));
20
21 gdb_custom_word_point_brkchars[0] = rl_line_buffer[rl_point];
22 rl_completer_word_break_characters = gdb_custom_word_point_brkchars;
23 rl_completer_quote_characters = NULL;
24
25 /* Clear this too, so that if we're completing a quoted string,
26 readline doesn't consider the quote character a delimiter.
27 If we didn't do this, readline would auto-complete {b
28 'fun<tab>} to {b 'function()}', i.e., add the terminating
29 '\\', but, it wouldn't append the separator space either, which
30 is not desirable. So instead we take care of appending the
31 quote character to the LCD ourselves, in
32 gdb_rl_attempted_completion_function. Since this global is
33 not just completer-specific, we'll restore it back to the
34 default in gdb_rl_attempted_completion_function. */
35 rl_basic_quote_characters = NULL;
36 }
37

```

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```

38 return rl_completer_word_break_characters;
39 }
40
41 char *
42 gdb_completion_word_break_characters ()
43 {
44     /* New completion starting. */
45     current_completion.aborted = false;
46
47     try
48     {
49         return gdb_completion_word_break_characters_throw ();
50     }
51     catch (const gdb_exception &ex)
52     {
53         /* Set this to that gdb_rl_attempted_completion_function knows
54            to abort early. */
55         current_completion.aborted = true;
56     }
57
58     return NULL;
59 }

```

- [rsb-report-sparc-rtems5-gdb-9.1-x86_64-w64-mingw32-1.txt](#)

Author: Trac Migrate 2024-01-30T21:52:35.000Z

Original author: qwertyspark

- **Attachment** [rsb-report-sparc-rtems5-gdb-9.1-x86_64-w64-mingw32-1.txt](#) added

RTEMS Tools Project - Source Builder Error Report

Author: Joel Sherrill 2024-01-30T23:40:08.000Z

Original author: qwertyspark

Is gdb configured with `--disable-werror` (or similar)? This might be in the `-log` file if you configured with that.

This type of thing is generally an issue as the host OSes get newer and newer tools and releases of RTEMS and other distributions tend to be tested with older packages.

Author: Amar Takhar 2024-04-25T20:50:57.700Z

changed the description

1.5.1.141 4897 - Wrong result comparing Python versions in gdb-common-1.cfg (opened)

Id	4897
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2023-04-13T11:25:56.000Z
Updated	2023-04-13T11:25:56.000Z
Milestone	5.4
Labels	priority::normal, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4897
Merges	0

Original author: okleinke

On branch: 5, tag: 5.3, commit: 9144a4a

Tried to build using the following command line on a fresh Debian testing:

```
../source-builder/sb-set-builder --prefix=[...]/rtems/bin 5/rtems-sparc
```

Fails with:

```
error: shell macro failed: [...]/rtems/rsb/source-builder/sb/rtems-build-dep -c gcc
-l : 2: error: no library (-l) provided
```

The trace log reveals that a check in gdb-common-1.cfg has the wrong outcome, thus not using the --embed argument when calling python3-config:

```
1 config: source-builder/config/gdb-common-1.cfg: 112:>%if %{gdb-python-ver-mm} < 3.
  ↳8 [True]
2 config: source-builder/config/gdb-common-1.cfg: 112:  _if[1]: ['3.11', '<', '3.8']
3 config: source-builder/config/gdb-common-1.cfg: 112:  _if: numeric value check
4 config: source-builder/config/gdb-common-1.cfg: 112:  _if[2]: ('3.11', '<', '3.8
  ↳') True none True
5 config: source-builder/config/gdb-common-1.cfg: 112:  _ifs[2]: dir=None 3 ['3.11',
  ↳ '<', '3.8']
6 config: source-builder/config/gdb-common-1.cfg: 113:>%define gdb-python-config-
  ↳lib-check-flags --ldflags [True]
7 config: source-builder/config/gdb-common-1.cfg: 114:>%else [True]
8 config: source-builder/config/gdb-common-1.cfg: 115: %define gdb-python-config-
  ↳lib-check-flags --ldflags --embed [False]
9 config: source-builder/config/gdb-common-1.cfg: 116: %endif [False]
```

1.5.1.142 4886 - Build of gdb-9.1 fails on mingw64 (opened)

Id	4886
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2023-03-22T11:08:05.000Z
Updated	2023-03-22T11:08:05.000Z
Milestone	5.4
Labels	priority::high, tickettype::defect, tool::gdb, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4886
Merges	0

Original author: Fantomas96

The building of the rtems-gdb-9.1 fails due to a feature which is considered deprecated by the late model gcc in mingw. The solution is to update the gdb to version 12.1 by putting the gdb-12.1.cfg file inside the rtems-source-builder/rtems/config/tools directory and update the rtems-default.bset file in rtems-source-builder/rtems/config/5 by changing the gdb version to 12.1

1.5.1.143 4877 - sptests/spsysinit01 sem_open call only has 3 parameters with O_CREAT flag (opened)

Id	4877
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2023-03-13T09:26:17.000Z
Updated	2023-03-13T14:29:09.000Z
Milestone	5.4
Labels	priority::normal, resolution::invalid, tickettype::defect, tool::test, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4877
Merges	0

Original author: lsilistr

When calling sem_open with the O_CREAT flag the sem_open function requires 4 parameters. It will: value = va_arg(args, unsigned int); so the “value” argument will be randomly chosen.

sem_open can fail if the random value is not a valid semaphore value, failing the test.

Author: Joel Sherrill 2023-03-13T13:31:05.000Z

Original author: lsilistr

- **Resolution** set to ~”invalid”

- **Status** changed from *new* to *closed*

This is an error on the caller's part. Per https://pubs.opengroup.org/onlinepubs/9699919799/functions/sem_open.html, the fourth argument is required if you include `O_CREAT`. Since you did not explicitly pass a value, the result is undefined.

```

1 O_CREAT
2 This flag is used to create a semaphore if it does not already exist.
  ↳ If O_CREAT is set and the semaphore already exists, then O_CREAT has
  ↳ no effect, except as noted under O_EXCL. Otherwise, sem_open()
  ↳ creates a named semaphore. The O_CREAT flag requires a third and a
  ↳ fourth argument: mode, which is of type mode_t, and value, which is
  ↳ of type unsigned. The semaphore is created with an initial value of
  ↳ value. Valid initial values for semaphores are less than or equal to
  ↳ {SEM_VALUE_MAX}.

```

Author: Trac Migrate 2023-03-13T13:35:06.000Z

Original author: lsilistr

It's the RTEMS test `spstests/spsysinit01` that calls `sem_open` with only 3 arguments (line 911 in `init.c` - master branch on github right now).

Author: Trac Migrate 2023-03-13T14:28:50.000Z

Original author: lsilistr

- **Milestone** set to %"5.4"
- **Resolution** ~"invalid" deleted
- **Status** changed from *closed* to *reopened*

Thanks, you found the reason for a sporadic test failure which is on my TODO list for a long time.

Author: Trac Migrate 2023-03-13T14:29:09.000Z

Original author: lsilistr

- **Owner** set to sebastian.huber
- **Status** changed from *reopened* to *assigned*

1.5.1.144 4742 - Deadlock risk of Immediate Ceiling Priority Protocol (ICPP) with nested resource sharing (opened)

Id	4742
State	opened
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-10-19T09:54:00.000Z
Updated	2023-01-31T22:44:38.000Z
Milestone	5.4
Labels	priority::normal, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4742
Merges	0

Original author: JJShi

In the current implementation of Immediate Ceiling Priority Protocol (ICPP), the task's base priority is assumed to be lower or equal to the requested resource's ceiling after a successful ceiling check.

However, we notice that the resource's ceiling is not checked against the thread's (task's) base priority but against its current dynamic priority derived from the task's priority aggregation. According to the definition of priority ceiling, a resource's ceiling is required to be set as the highest base priority of all tasks that are requesting it.

This mismatch may lead to a deadlock by erroneously denying legitimate nested resource access if resources are requested with descending order of priority ceilings. We give an example to elaborate such a case: Consider two tasks t_1 and t_2 , t_1 has higher priority than t_2 and two resources R_1 (used by both tasks) and R_2 (used by t_2 only) with $\text{Ceiling}(R_1) = \text{Priority}(t_1)$ and $\text{Ceiling}(R_2) = \text{Priority}(t_2)$. If t_2 acquires R_1 , it inherits its priority ceiling and executes with the promoted dynamic priority $\text{Priority}(t_1)$. If it requests the second resource R_2 , its dynamic priority is higher than $\text{Ceiling}(R_2)$, which leads to a denial of the resource access by the implemented ceiling check. The consequence of this is a deadlock, i.e., t_2 holds R_1 but cannot successfully lock semaphore R_2 due to the implemented ceiling check, whilst t_1 cannot enter the critical section guarded by R_1 .

Such execution behavior with a deadlock can also be demonstrated by a running example in RTEMS, which has been attached.

To correct the mismatch, an adaption to the priority ceiling check is proposed in the attached patch for `coremuteximpl.h`. Instead of checking the potentially already increased dynamic priority, it uses the thread's base priority for the comparison to the newly requested resource's priority ceiling.

After applying the correction, the aforementioned counterexample can be successfully executed.

- [ICPP_Test.c](#)

Author: Trac Migrate 2022-10-19T09:55:11.000Z

Original author: JJShi

- **Attachment** [ICPP_Test.c](#) added

ICPP test with deadlock

Author: Chris Johns 2022-11-10T01:06:35.000Z

Original author: JJShi

- **Milestone** changed from %”5.1” to %”5.3”

Author: Gedare Bloom 2023-01-31T22:43:44.000Z

Original author: JJShi

I would like to move this to 5.4 at least. I believe this bug is avoidable by common practice, and deterministically triggered if it will occur. I would isolate the fix to a later dot release to avoid unexpected impacts on other applications.

Author: Gedare Bloom 2023-01-31T22:44:38.000Z

Original author: JJShi

- **Milestone** changed from %”5.3” to %”5.4”

1.5.1.145 4721 - Support tar along with pax (opened)

Id	4721
State	opened
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-09-22T07:42:24.000Z
Updated	2023-01-30T00:46:32.000Z
Milestone	5.4
Labels	priority::normal, rtems::build, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4721
Merges	0

Rocky 9 does not provide pax. Searching PowerTools and CRB repos does not report pax or spax as available. RPM websites do not report the RPM available.

Change libdl tests to use tar if pax is not available. Update the options to map pax functionality to GNU tar. BSD tar is not supported but this should not be an issue because BSD systems should maintain pax.

Note, RTEMS 6 uses waf and Python’s tarfile support.

Author: Chris Johns 2022-09-22T22:18:39.000Z

It is simpler to support BSD tar so it will also be supported.

Author: Chris Johns 2022-11-09T23:46:22.000Z

- **Milestone** changed from %”5.2” to %”5.3”

Author: Chris Johns 2023-01-30T00:46:32.000Z

- **Milestone** changed from %”5.3” to %”5.4”

1.5.2 Merge Requests

1.5.2.1 1068 - README: Rename and convert to markdown

Id	1068
State	merged
Merged by	Chris Johns
Merged at	2026-02-20T00:31:43.838Z
Assignee(s)	Kinsey Moore
Created	2026-02-20T00:29:58.656Z
Updated	2026-02-20T00:31:43.827Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/merge_requests/1068
Commit	0b77054106928f29ab8068541cfe966036edfef9

Summary

README: Rename and convert to markdown

This updates README to README.md for homogeniety purposes to allow releases to be more consistent.

Closes [#5494](#)

Generative AI

Author: Kinsey Moore 2026-02-20T00:29:59.118Z

assigned to @opticron

Author: Chris Johns 2026-02-20T00:30:55.151Z

approved this merge request

Author: Chris Johns 2026-02-20T00:30:59.162Z

enabled an automatic merge when all merge checks for
0b77054106928f29ab8068541cfe966036edfef9 pass

Author: Joel Sherrill 2026-02-20T00:31:41.316Z

approved this merge request

1.5.2.2 429 - cpukit/termios: Fix ordering of baud rate table

Id	429
State	merged
Merged by	Kinsey Moore
Merged at	2025-02-20T22:09:14.743Z
Assignee(s)	Gedare Bloom
Created	2025-02-20T10:30:32.295Z
Updated	2025-02-20T22:09:17.378Z
Milestone	5.4
Labels	backport, cpukit
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/merge_requests/429
Commit	616545350f2da0fd873972e159b0b184451bc001

Summary

cpukit/termios: Fix ordering of baud rate table

rtems_termios_set_best_baud expects a sorted baud rate table.

Fixes [#5220](#)

Author: Gedare Bloom 2025-02-20T21:42:56.677Z

assigned to @gedare

Author: Gedare Bloom 2025-02-20T21:51:49.326Z

approved this merge request

Author: Kinsey Moore 2025-02-20T22:08:29.946Z

approved this merge request

Author: Kinsey Moore 2025-02-20T22:08:56.351Z

added 2 commits

- 13cbd834 - 1 commit from branch rtems/rtos:5
- 61654535 - cpukit/termios: Fix ordering of baud rate table

[Compare with previous version](#)

1.5.2.3 428 - Backport 5.4: glib/occan: Fix baud rate calculation

Id	428
State	merged
Merged by	Kinsey Moore
Merged at	2025-02-20T22:08:35.119Z
Assignee(s)	Gedare Bloom
Created	2025-02-20T10:24:22.519Z
Updated	2025-02-20T22:08:37.091Z
Milestone	5.4
Labels	backport
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/merge_requests/428
Commit	13cbd83444c7abf80b9610cce6eb31250a317c6b

Summary

glib/occan: Fix baud rate calculation

Fixes [#5219](#)

Author: Jan Sommer 2025-02-20T10:24:50.901Z

added 1 commit

- 13cbd834 - glib/occan: Fix baud rate calculation

[Compare with previous version](#)

Author: Amar Takhar 2025-02-20T11:04:50.651Z

I merged the CI into the wrong branch should have 5 not 5.3. @chris is this true?

Author: Amar Takhar 2025-02-20T11:05:23.285Z

Actually nevermind it IS to 5 hmm.

Author: Amar Takhar 2025-02-20T11:09:19.557Z

Strange no ideas why the pipeline took so long I had to go to 'Pipelines' and run it but not sure if that made a difference.

Author: Amar Takhar 2025-02-20T11:10:22.805Z

Nevermind I think I know why it's a permission thing will need to look into it. It's being blocked somewhere.

Author: Gedare Bloom 2025-02-20T21:40:36.707Z

approved this merge request

Author: Gedare Bloom 2025-02-20T21:42:19.815Z

assigned to @gedare

Author: Kinsey Moore 2025-02-20T22:08:24.966Z

approved this merge request

1.5.2.4 419 - gitlab: Add link to CI

Id	419
State	merged
Merged by	Chris Johns
Merged at	2025-02-13T03:23:53.001Z
Assignee(s)	Amar Takhar
Created	2025-02-12T13:55:17.479Z
Updated	2025-02-13T03:23:54.762Z
Milestone	5.4
Labels	ci
Link	https://gitlab.rtems.org/rtems/rtems/-/merge_requests/419
Commit	ef6e6e3087a0ed63c72dd736f2081b63cb2984ec

Summary

gitlab: Add link to CI

This runs only the commit message and merge request checker.

Required so we can have 'all pipelines must pass' enabled due to a bug in Gitlab

Author: Amar Takhar 2025-02-12T13:55:17.940Z

assigned to @amar

Author: Amar Takhar 2025-02-12T14:04:29.501Z

Once this is merged I can enable enforcing pipelines must pass.

Author: Kinsey Moore 2025-02-12T14:46:34.046Z

approved this merge request

Author: Chris Johns 2025-02-13T03:19:50.942Z

changed the description

Author: Chris Johns 2025-02-13T03:23:43.649Z

Commit message has “ue” instead of “due”.

Author: Amar Takhar 2025-02-13T03:22:46.883Z

added 1 commit

- ef6e6e30 - gitlab: Add link to CI

[Compare with previous version](#)

Author: Chris Johns 2025-02-13T03:23:43.665Z

resolved all threads

Author: Chris Johns 2025-02-13T03:23:46.727Z

approved this merge request

1.5.2.5 366 - Backport 5.4: bsp/shared: NS16550 driver updates the line control register during operation

Id	366
State	merged
Merged by	Chris Johns
Merged at	2025-01-24T00:08:42.925Z
Created	2025-01-23T14:31:42.207Z
Updated	2025-01-24T00:08:44.410Z
Milestone	5.4
Labels	device::serial, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/merge_requests/366
Commit	7b40317e76bb2f6a559a81fba544aedb0bec8921

Summary

bsp/shared: NS16550 driver updates the line control register during operation

Fixes: [#5188](#)

Author: Jan Sommer 2025-01-23T14:32:05.031Z

changed the description

Author: Jan Sommer 2025-01-23T14:33:06.175Z

changed title from **bsps/shared: NS16550 driver updates the line control register during operation** to **{+Backport 5.4: +}bsps/shared: NS16550 driver updates the line control register during operation**

Author: Kinsey Moore 2025-01-23T14:33:18.584Z

approved this merge request

Author: Chris Johns 2025-01-24T00:08:38.513Z

approved this merge request

1.6 RTEMS / RTOS / Examples

Go to [rtems/rtos/rtems-examples-issues](#) or *Merge Requests* (page 326)

- Issues Summary
- Merge Requests Summary

16 - [gitlab: Add link to CI](#) (page 326)

1.6.1 Merge Requests

1.6.1.1 16 - gitlab: Add link to CI

Id	16
State	merged
Merged by	Kinsey Moore
Merged at	2025-02-14T16:34:46.571Z
Assignee(s)	Amar Takhar
Created	2025-02-14T06:35:51.841Z
Updated	2025-02-14T16:34:49.485Z
Milestone	5.4
Labels	ci
Link	https://gitlab.rtems.org/rtems/rtos/rtems-examples/-/merge_requests/16
Commit	4e143fd87255f529466618fd143f0f46609fc278

Summary

gitlab: Add link to CI

This runs only the commit message and merge request checker.

Required so we can have ‘all pipelines must pass’ enabled due to a bug in GitLab.

Author: Amar Takhar 2025-02-14T06:35:52.029Z

assigned to @amar

Author: Kinsey Moore 2025-02-14T16:34:32.983Z

approved this merge request

1.7 RTEMS / RTOS / Release

Go to *Issues* (page 327) or `rtems/rtos/rtems-release-merges`

Issues Summary

3 - Update 5 release notes to indicate GDB needs (opened) (page 327)

Merge Requests Summary

1.7.1 Issues

1.7.1.1 3 - Update 5 release notes to indicate GDB needs (opened)

Id	3
State	opened
Type	ISSUE
Author	Chris Johns
Assignee(s)	Joel Sherrill
Created	2024-07-19T01:15:40.257Z
Updated	2024-10-06T19:02:39.611Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/rtos/rtems-release/-/issues/3
Merges	0

The MR `rtems/tools/rtems-source-builder!38` updates GDB to a version that only supports Python 3 and RTEMS 5 releases have allowed Python 2 or 3. Users will need to update their build environment to have Python 3 development libraries for the build to work. The release notes need to state this.

Author: Chris Johns 2024-07-19T01:15:40.407Z

assigned to @joel

1.8 RTEMS / Tools / RTEMS Source Builder

Go to *Issues* (page 329) or *Merge Requests* (page 338)

Issues Summary

114 - Backport mirror name change patch to 5 branch (page 330)
111 - Backport mirror updates to 5 for future releases (page 329)
105 - Backport QEMU version update to 5 branch (page 332)
97 - Backport Python 3.12 fixes to 5 branch (page 331)
96 - Links to gaisler.se are broken on 5 branch (page 333)

129 - GNU FTP URLs are broken after moving to ftpmirror.gnu.org (opened) (page 334)
43 - Backport !32 to branch 5 (opened) (page 334)
21 - All Builds Fail on Cygwin From chmod Returning an Error (opened) (page 337)
14 - Update GDB on RTEMS 5 (opened) (page 335)

Merge Requests Summary

168 - config: Update to new mirror names (page 338)
160 - Update RSB 5 branch to modern source locations (page 339)
151 - devel/qemu-5.2.0: Update to the non-RC version (page 342)
138 - sb: Fix Python 3.12 safeConfigParser and invalid escape sequences (page 343)
136 - bare/config/devel: Update stale links (page 343)
129 - gitlab: Add link to CI (page 344)
43 - Update gdb to 14.2 for rtems 5 branch (page 345)

38 - Update gdb version on rtems 5 (closed) (page 345)
34 - Update gdb to 14.2 for rtems 5 branch (closed) (page 348)

1.8.1 Issues

1.8.1.1 111 - Backport mirror updates to 5 for future releases

Id	111
State	closed
Type	ISSUE
Author	Kinsey Moore
Assignee(s)	Kinsey Moore
Closed by	Kinsey Moore
Created	2025-07-04T20:04:58.568Z
Closed	2025-07-31T01:43:10.705Z
Updated	2025-07-31T01:43:10.717Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/issues/111
Merges	0

The following discussion from [!159](#) should be addressed:

- [\[\]](#) @opticron started a [discussion](#):

This should be backported to 5 for future releases.

Author: Kinsey Moore 2025-07-04T20:04:58.716Z

added rtems#14 as parent epic

Author: Kinsey Moore 2025-07-05T04:22:28.247Z

This also needs to pull in the QEMU update from 6 branch to the non-RC version and the conversion from devel.rtems.org trac patches to the tracmigrate storage.

Author: Kinsey Moore 2025-07-05T14:50:23.676Z

mentioned in merge request [!160](#)

Author: Kinsey Moore 2025-07-31T01:43:05.719Z

assigned to @opticron

Author: Kinsey Moore 2025-07-31T01:43:10.748Z

set status to **Done**

1.8.1.2 114 - Backport mirror name change patch to 5 branch

Id	114
State	closed
Type	ISSUE
Author	Kinsey Moore
Assignee(s)	Kinsey Moore
Closed by	Kinsey Moore
Created	2025-07-17T22:06:32.054Z
Closed	2025-07-31T01:42:42.462Z
Updated	2025-07-31T01:42:42.473Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/issues/114
Merges	0

The following discussion from [!167](#) should be addressed:

- [\[\]](#) @opticron started a [discussion](#):

This needs to be backported to 5 branch.

Author: Kinsey Moore 2025-07-17T22:06:39.480Z

added rtems#14 as parent epic

Author: Kinsey Moore 2025-07-17T22:53:35.051Z

mentioned in merge request [!168](#)

Author: Amar Takhar 2025-07-19T15:14:28.044Z

mentioned in commit 78a89ec67e7239e51bb6b7272ad88151393ccf87

Author: Kinsey Moore 2025-07-31T01:42:39.990Z

assigned to @opticron

Author: Kinsey Moore 2025-07-31T01:42:42.504Z

set status to **Done**

1.8.1.3 97 - Backport Python 3.12 fixes to 5 branch

Id	97
State	closed
Type	ISSUE
Author	Kinsey Moore
Assignee(s)	Kinsey Moore
Closed by	Kinsey Moore
Created	2025-03-31T20:46:30.308Z
Closed	2025-07-30T18:31:21.024Z
Updated	2025-07-30T18:31:21.091Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/issues/97
Merges	0

Summary

If 5 branch is to have another release (5.4), it needs to build properly up through python 3.13.

Steps to reproduce

1.8.1.3.2.1 Pre-set options

Author: Kinsey Moore 2025-03-31T20:46:30.518Z

assigned to @opticron

Author: Kinsey Moore 2025-03-31T20:46:30.915Z

Author: Kinsey Moore 2025-03-31T20:47:48.683Z

mentioned in merge request [!138](#)

Author: Chris Johns 2025-04-19T02:54:57.795Z

mentioned in commit [a3bc31ef82e3e230cac07e3a7d781903d6c59d66](#)

Author: Kinsey Moore 2025-07-30T18:31:21.070Z

set status to **Done**

1.8.1.4 105 - Backport QEMU version update to 5 branch

Id	105
State	closed
Type	ISSUE
Author	Kinsey Moore
Assignee(s)	Kinsey Moore
Closed by	Kinsey Moore
Created	2025-05-28T18:16:13.899Z
Closed	2025-07-30T18:29:58.052Z
Updated	2025-07-30T18:29:58.116Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/issues/105
Merges	0

Summary

This needs to be updated so that QEMU is buildable.

Steps to reproduce

1.8.1.4.2.1 Pre-set options

Author: Kinsey Moore 2025-05-28T18:16:14.192Z

cloned from [#104](#)

Author: Kinsey Moore 2025-05-28T18:16:13.958Z

assigned to @opticron

Author: Kinsey Moore 2025-05-28T18:16:14.711Z

Author: Kinsey Moore 2025-05-28T18:16:36.470Z

Author: Kinsey Moore 2025-05-28T18:16:52.199Z

changed title from **Backport QEMU version update to {-6-} branch** to **Backport QEMU version update to {+5+} branch**

Author: Kinsey Moore 2025-05-28T18:20:47.552Z

mentioned in merge request [!151](#)

Author: Kinsey Moore 2025-07-30T18:29:58.096Z

set status to **Done**

1.8.1.5 96 - Links to gaisler.se are broken on 5 branch

Id	96
State	closed
Type	ISSUE
Author	Kinsey Moore
Assignee(s)	Kinsey Moore
Closed by	Kinsey Moore
Created	2025-03-21T16:02:34.852Z
Closed	2025-03-21T18:26:42.785Z
Updated	2025-03-21T18:26:42.827Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/issues/96
Merges	0

Summary

There are several links that are no longer valid in the 5 branch RSB.

These appear to have already been fixed on 6 and main.

Steps to reproduce

1.8.1.5.2.1 Pre-set options

Author: Kinsey Moore 2025-03-21T16:02:35.076Z

assigned to @opticron

Author: Kinsey Moore 2025-03-21T16:02:35.447Z

Author: Kinsey Moore 2025-03-21T16:04:02.085Z

mentioned in merge request [!136](#)

Author: Kinsey Moore 2025-03-21T16:04:26.435Z

changed the description

1.8.1.6 129 - GNU FTP URLs are broken after moving to ftpmirror.gnu.org (opened)

Id	129
State	opened
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2025-10-01T02:48:55.672Z
Updated	2025-10-01T02:49:06.298Z
Milestone	5.4
Labels	tool::rtems-source-builder
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/issues/129
Merges	0

The [GNU Mirror](#) pages says to use the generic names which means a number of our GNU FTP links are now broken.

Author: Chris Johns 2025-10-01T02:48:55.779Z

cloned from [#128](#)

1.8.1.7 43 - Backport !32 to branch 5 (opened)

Id	43
State	opened
Type	ISSUE
Author	Agustin Catellani
Created	2024-10-26T14:58:36.485Z
Updated	2025-09-25T23:26:17.723Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/issues/43
Merges	0

Title. The bug resolved by [!32](#) on main branch also happens on branch 5. It would be nice to apply the fix there.

1.8.1.8 14 - Update GDB on RTEMS 5 (opened)

Id	14
State	opened
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2024-06-21T19:16:23.944Z
Updated	2025-02-17T00:45:43.699Z
Milestone	5.4
Labels	tool::gdb
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/issues/14
Merges	0

Summary

On multiple host OSes with newer GCC or LLVM, the gdb used in the RTEMS 5 tools no longer builds. The failure varies based on the RTEMS target and host. On some hosts, the build failure is in a simulator while others fail elsewhere.

- FreeBSD 14 fails <<https://lists.rtems.org/pipermail/build/2024-June/053075.html>> with this:

```
In file included from ../../gdb-9.1/gdb/defs.h:56: ../../gdb-9.1/gdb/gdbsupport/
enum-flags.h:85:52: error: integer value -1 is outside the valid range of values
[0, 15] for the enumeration type 'ui_out_flag' [-Wenum-constexpr-conversion] 85 |
integer_for_size<sizeof (T), static_cast<bool>(T (-1) < T (0))>::type
```

- FreeBSD 13 fails with this:

```
1 /usr/bin/cc -O2 -pipe -fbracket-depth=1024 -I/usr/home/tester/rtems-cron-5/rtems-
↪source-builder/rtems/build/tmp/sb-1003/5/rtems-v850/home/tester/rtems-cron-5/
↪tools/5/include -DHAVE_CONFIG_H -DWITH_DEFAULT_ALIGNMENT=NONSTRICT_ALIGNMENT -
↪DWITH_TARGET_WORD_BITSIZE=32 -DWITH_TARGET_WORD_MSB=31 -DWITH_TARGET_BYTE_
↪ORDER=BFD_ENDIAN_LITTLE -DDEFAULT_INLINE=0 -DWITH_RESERVED_BITS=1 -Wall -
↪Wdeclaration-after-statement -Wpointer-arith -Wpointer-sign -Wno-unused -
↪Wunused-value -Wunused-function -Wno-switch -Wno-char-subscripts -Wmissing-
↪prototypes -Wdeclaration-after-statement -Wempty-body -Wmissing-parameter-type -
↪Wold-style-declaration -Wold-style-definition -Wformat-nonliteral -DDEBUG -I...
↪../../gdb-9.1/sim/v850/../../newlib/libc/sys/sysnecv850 -I. -I../../gdb-9.1/
↪sim/v850 -I../common -I../../gdb-9.1/sim/v850/../../common -I../../include -I..
↪../../gdb-9.1/sim/v850/../../include -I../../bfd -I../../gdb-9.1/sim/v850/..
↪../../bfd -I../../opcodes -I../../gdb-9.1/sim/v850/../../opcodes -g -O2 -L/usr/
↪home/tester/rtems-cron-5/rtems-source-builder/rtems/build/tmp/sb-1003/5/rtems-
↪v850/home/tester/rtems-cron-5/tools/5/lib -o run \
2 nrun.o libsim.a ../../bfd/libbfd.a ../../opcodes/libopcodes.a ../../libiberty/
↪libiberty.a -L../../zlib -lz\
3 ld: error: duplicate symbol: idecode_issue
4
5
6
```

(continues on next page)

(continued from previous page)

```

7   defined at irun.c:31 irun.o:(idecode_issue) in archive libsim.a defined at
8   ↪idecode.h:71 (./idecode.h:71) engine.o:(.bss+0x0) in archive libsim.a\`
9
10  * Cygwin `fails <https://lists.rtems.org/pipermail/build/2024-June/053116.html>
11  ↪`_ with this:
12
13  ``In file included from ../../gdb-9.1/gdb/break-catch-sig.c:25: ../../gdb-9.1/
14  ↪gdb/inferior.h: In member function 'void infcall_suspend_state_
15  ↪deleter::operator()(infcall_suspend_state*) const': ../../gdb-9.1/gdb/inferior.
16  ↪h:80:19: warning: 'bool std::uncaught_exception()' is deprecated: use
17  ↪'std::uncaught_exceptions()' instead [-Wdeprecated-declarations] 80 | if (!
18  ↪std::uncaught_exception ()) | ^~~~~~ In file included from /usr/lib/
19  ↪gcc/x86_64-pc-cygwin/11/include/c++/ext/concurrency.h:34, from /usr/lib/gcc/x86_
20  ↪64-pc-cygwin/11/include/c++/bits/shared_ptr_base.h:62, from /usr/lib/gcc/x86_64-
21  ↪pc-cygwin/11/include/c++/bits/shared_ptr.h:53, from /usr/lib/gcc/x86_64-pc-
22  ↪cygwin/11/include/c++/memory:77, from ../../gdb-9.1/gdb/gdbsupport/common-
23  ↪exceptions.h:25, from ../../gdb-9.1/gdb/gdbsupport/common-defs.h:137, from ../../
24  ↪gdb-9.1/gdb/defs.h:28, from ../../gdb-9.1/gdb/break-catch-sig.c:20: /usr/lib/
25  ↪gcc/x86_64-pc-cygwin/11/include/c++/exception:109:8: note: declared here 109 |
26  ↪bool uncaught_exception() _GLIBCXX_USE_NOEXCEPT __attribute__ ((__pure__)); | ^~
27  ↪~~~~~ In file included from ../../gdb-9.1/gdb/break-catch-sig.c:25: .
28  ↪../../gdb-9.1/gdb/inferior.h:80:38: warning: 'bool std::uncaught_exception()' is
29  ↪deprecated: use 'std::uncaught_exceptions()' instead [-Wdeprecated-
30  ↪declarations] 80 | if (!std::uncaught_exception ())``
31
32  There are other odd issues like a simulator build issue with the v850 that
33  ↪shows on some hosts.
34
35  Recommended Solution
36  .....
37
38  Update GDB version for RTEMS 5.
39
40  Help is requested from @chris as expect updating GDB will require bringing in
41  ↪the changes needed to include mpfr/gmp building with gdb that were recently
42  ↪introduced to the main branch.

```

Author: Joel Sherrill 2024-06-21T19:16:24.087Z

assigned to @joel

Author: Joel Sherrill 2024-06-21T19:16:52.929Z

changed the description

Author: Joel Sherrill 2024-06-21T19:18:03.741Z

changed the description

Author: Joel Sherrill 2024-07-16T13:43:27.853Z

mentioned in merge request !38

Author: Joel Sherrill 2024-08-03T14:58:16.053Z

mentioned in merge request !43

Author: Joel Sherrill 2024-08-07T02:43:31.431Z

mentioned in commit 28fa89dd5dbd5b6a866a08ed8febc4919829aa82

Author: Chris Johns 2024-08-14T06:07:43.482Z

@joel Is this resolved?

Author: Joel Sherrill 2024-10-17T23:10:40.633Z

Resolved.

Author: Chris Johns 2025-02-17T00:44:59.511Z

@joel has reported on discord builds are failing on FreeBSD. It seems the package support to build needs to found on 6 to 5.

Author: Chris Johns 2025-02-17T00:45:43.932Z

1.8.1.9 21 - All Builds Fail on Cygwin From chmod Returning an Error (opened)

Id	21
State	opened
Type	ISSUE
Author	Joel Sherrill
Created	2024-07-08T16:58:12.160Z
Updated	2024-07-08T17:00:33.108Z
Milestone	5.4
Labels	tool::rtems-source-builder
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/issues/21
Merges	0

Summary

For some unknown reason, the `_chmod_` has begun to fail on Cygwin. This is done after untaring the source files and results in all Cygwin RSB builds failing.

Steps to reproduce

Build any target on Cygwin. The generated do-build script is run with “sh -ex” which will exit on any command returning non-zero. The following shows the results of manually “sh -ex do-build ; echo \$?”

```
1 + tar_exit=0
2 + cd sourceware-mirror-newlib-cygwin-7947581
3 + chmod -R a+rX,g-w,o-w .
4 1
```

Author: Amar Takhar 2024-07-08T17:00:33.086Z

marked this issue as related to [#22](#)

1.8.2 Merge Requests

1.8.2.1 168 - config: Update to new mirror names

Id	168
State	merged
Merged by	Amar Takhar
Merged at	2025-07-19T15:14:27.389Z
Assignee(s)	Kinsey Moore
Created	2025-07-17T22:53:31.051Z
Updated	2025-07-19T15:14:27.375Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/merge_requests/168
Commit	78a89ec67e7239e51bb6b7272ad88151393ccf87

Summary

config: Update to new mirror names

The mirrors are now named such that they do not appear to be official mirrors as the github mirrors were. This should avoid our servers getting scraped by bots so often.

Closes [#114](#)

Author: Kinsey Moore 2025-07-17T22:53:31.238Z

assigned to @opticron

Author: Kinsey Moore 2025-07-17T23:25:34.798Z

added 1 commit

- 78a89ec6 - config: Update to new mirror names

Compare with previous version

Author: Amar Takhar 2025-07-19T15:12:58.865Z

enabled an automatic merge when all merge checks for 78a89ec67e7239e51bb6b7272ad88151393ccf87 pass

Author: Amar Takhar 2025-07-19T15:12:59.698Z

approved this merge request

1.8.2.2 160 - Update RSB 5 branch to modern source locations

Id	160
State	merged
Merged by	Joel Sherrill
Merged at	2025-07-16T16:32:12.414Z
Assignee(s)	Kinsey Moore
Created	2025-07-05T05:09:37.227Z
Updated	2025-07-16T16:32:12.404Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/merge_requests/160
Commit	91f62675fdc4ad947acf9611ae6eb096e6d75533

Summary

This backports several updates and makes RSB 5 branch buildable again.

Closes #111

Author: Kinsey Moore 2025-07-05T05:09:37.352Z

assigned to @opticron

Author: Kinsey Moore 2025-07-07T22:33:37.440Z

I am currently running a full build of 5/rtems-all and devel/qemu to prove this out.

Author: Kinsey Moore 2025-07-07T22:33:37.440Z

It looks like SIS tarball reproduction isn't quite right. I'll figure that out this evening sometime.

Author: Kinsey Moore 2025-07-07T22:33:37.440Z

The issues with SIS has been resolved. Builds are still running, but the only remaining issues thus far have been: * Unable to build bfin/epiphany due to local GCC being too modern (generates build errors in the toolchain) * Unable to build mips due to python being too new (APIs appear to have changed or GCC is too strict where it hasn't been historically)

Author: Kinsey Moore 2025-07-07T22:33:37.440Z

v850 tools build has similar problems

Author: Joel Sherrill 2025-07-07T22:33:37.440Z

It will need discussion but perhaps our recommendation is to use older host OSes for these cases. I don't think updating gcc on 5 would be a wise decision.

Author: Amar Takhar 2025-07-07T22:33:37.440Z

We've discussed this a lot over the years. Trying to get old code on modern tools is a bad idea it's easy to install older OSes and tools even if you have to build from source anyone going down this road should have the experience to do that much otherwise they'll have to find someone to do it for them.

We're far more likely to break something by updating.

Author: Joel Sherrill 2025-07-07T22:33:37.440Z

We are almost guaranteed to break something by upgrading GCC. GCC and newlib are mated to the RTEMS version by at least being the three sources of header files.

I am prone to say this should just be discussed in the release notes. It will be necessary to cover the URL changes so covering that in the unlikely event someone wants to use RTEMS 5 on mips or epiphany they should stick to an older host OS version.

Author: Kinsey Moore 2025-07-07T22:33:37.440Z

I was in no way suggesting that we update GCC on 5 branch. I was merely stating that I don't have the proper system configuration to test builds for bfin/epiphany/mips/v850.

Author: Joel Sherrill 2025-07-07T22:33:37.440Z

@opticron I understood that. I'm ok with adding info to the release notes. I'll see if my CentOS 7 VM can provide some feedback.

Author: Joel Sherrill 2025-07-07T22:33:37.440Z

@opticron @amar I have built bfin/epiphany/mips/v850 and qemu from the 5 branch on CentOS 7. I am resolving this comment.

Author: Kinsey Moore 2025-07-05T14:50:23.589Z

changed the description

Author: Kinsey Moore 2025-07-06T00:21:21.795Z

added 1 commit

- 3ac86f8a - config: Move snapshots to gitlab

[Compare with previous version](#)

Author: Joel Sherrill 2025-07-07T18:06:52.742Z

left review comments

Author: Kinsey Moore 2025-07-07T21:53:37.500Z

added 2 commits

- 7bc673c3 - rtems-tools: Update location to gitlab
- 73fc39ea - Updated qemu patch to point to rtems.org domain from geisler.se which now 404s

[Compare with previous version](#)

Author: Joel Sherrill 2025-07-07T22:33:37.461Z

resolved all threads

Author: Joel Sherrill 2025-07-07T22:33:43.399Z

approved this merge request

Author: Kinsey Moore 2025-07-15T23:18:38.452Z

added 14 commits

- 73fc39ea...5e1eae58 - 12 commits from branch rtems/tools:5
- bf553abe - config: Migrate mirror links and hashes
- 12e0f170 - Migrate devel links to gitlab

[Compare with previous version](#)

Author: Kinsey Moore 2025-07-15T23:18:51.875Z

reset approvals from @joel by pushing to the branch

Author: Kinsey Moore 2025-07-15T23:56:15.437Z

added 1 commit

- 91f62675 - bare/config/glib: Migrate devel links to gitlab

[Compare with previous version](#)

Author: Joel Sherrill 2025-07-16T16:32:06.535Z

approved this merge request

1.8.2.3 151 - devel/qemu-5.2.0: Update to the non-RC version

Id	151
State	merged
Merged by	Chris Johns
Merged at	2025-05-28T22:20:13.776Z
Assignee(s)	Kinsey Moore
Created	2025-05-28T18:20:40.212Z
Updated	2025-05-28T22:20:15.067Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/merge_requests/151
Commit	5e1eae58d14ad643e5c4de9e6e138213a9c33684

Summary

devel/qemu-5.2.0: Update to the non-RC version

The release candidate 1 tarball has been removed from the QEMU website. This moves RSB to the 5.2.0 release which is still available.

Closes [#105](#)

Author: Kinsey Moore 2025-05-28T18:20:40.453Z

assigned to @opticron

Author: Chris Johns 2025-05-28T22:18:38.531Z

approved this merge request

1.8.2.4 138 - sb: Fix Python 3.12 safeConfigParser and invalid escape sequences

Id	138
State	merged
Merged by	Chris Johns
Merged at	2025-04-19T02:54:57.088Z
Assignee(s)	Kinsey Moore
Created	2025-03-31T20:47:40.455Z
Updated	2025-04-19T02:54:58.527Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/merge_requests/138
Commit	a3bc31ef82e3e230cac07e3a7d781903d6c59d66

Summary

sb: Fix Python 3.12 safeConfigParser and invalid escape sequences

Updates [#97](#)

This is a backport from the 6 branch.

Author: Kinsey Moore 2025-03-31T20:47:40.696Z

assigned to @opticron

Author: Chris Johns 2025-04-19T02:54:52.908Z

approved this merge request

1.8.2.5 136 - bare/config/devel: Update stale links

Id	136
State	merged
Merged by	Joel Sherrill
Merged at	2025-03-21T16:06:58.258Z
Assignee(s)	Kinsey Moore
Created	2025-03-21T16:03:52.628Z
Updated	2025-03-21T16:07:00.232Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/merge_requests/136
Commit	7ec713dc00b5001043f2ba8b66f1af5d1f9c2cdd

Summary

bare/config/devel: Update stale links

Links to Gaisler's website have stopped working. This moves the QEMU 4 and QEMU 5 build sets over to RTEMS-hosted storage of the patches which has already been fixed in more recent branches.

Updates [#96](#)

Author: Kinsey Moore 2025-03-21T16:03:52.941Z

assigned to @opticron

Author: Joel Sherrill 2025-03-21T16:06:46.777Z

approved this merge request

1.8.2.6 129 - gitlab: Add link to CI

Id	129
State	merged
Merged by	Kinsey Moore
Merged at	2025-02-14T16:33:07.141Z
Assignee(s)	Amar Takhar
Created	2025-02-14T10:38:35.395Z
Updated	2025-02-14T16:33:08.369Z
Milestone	5.4
Labels	ci, tool::rtems-source-builder
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/merge_requests/129
Commit	c238ab7b43eb993db5978f9b0276fbdd697cdf88

Summary

gitlab: Add link to CI

This runs only the commit message and merge request checker.

Required so we can have 'all pipelines must pass' enabled due to a bug in GitLab.

Closes [#5](#)

Author: Amar Takhar 2025-02-14T10:38:35.617Z

assigned to @amar

Author: Kinsey Moore 2025-02-14T16:33:01.414Z

approved this merge request

1.8.2.7 43 - Update gdb to 14.2 for rtems 5 branch

Id	43
State	merged
Merged by	Chris Johns
Merged at	2024-08-07T02:43:31.287Z
Assignee(s)	Joel Sherrill
Created	2024-08-03T14:58:11.214Z
Updated	2024-08-07T02:43:32.485Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/merge_requests/43
Commit	28fa89dd5dbd5b6a866a08ed8febc4919829aa82

Summary

Update gdb to 14.2 for rtems 5 branch

This was necessary as the previously used gdb version (9.x) could no long be compiled by a more recent gcc. This caused problems when attempting to use rtems5 on newer OS distributions.

Closes [#14](#).

Author: Joel Sherrill 2024-08-03T14:58:11.414Z

assigned to @joel

Author: Chris Johns 2024-08-07T02:43:25.145Z

approved this merge request

1.8.2.8 38 - Update gdb version on rtems 5 (closed)

Id	38
State	closed
Assignee(s)	Joel Sherrill
Reviewer(s)	Chris Johns
Closed by	Joel Sherrill
Created	2024-07-16T13:43:20.947Z
Closed	2024-08-03T14:53:34.923Z
Updated	2024-08-03T17:23:59.989Z
Milestone	5.4
Labels	tool::rtems-source-builder
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/merge_requests/38
Commit	7183f440072a0a0c0c362991b316ead3f3dcd3cb

Summary

Update gdb to 14.2 for rtems 5 branch

This was necessary as the previously used gdb version (9.x) could no longer be compiled by a more recent gcc. This caused problems when attempting to use rtems 5 on newer OS distributions.

Closes [#14](#).

Author: Joel Sherrill 2024-07-16T13:43:21.082Z

requested review from @chris

Author: Chris Johns 2024-07-18T00:13:16.767Z

Does this change mean users need to move to python 3 devel support?

Author: Amar Takhar 2024-07-18T00:13:16.767Z

Wasn't 2.x being dropped after %6.1 anyway so does it matter since it's the 5 branch?

Author: Chris Johns 2024-07-18T00:13:16.767Z

Because 14.2 requires python 3 development libraries which means any environment a user has for their 5 project will need a change. We need to understand this, agree to it and then document it.

Author: Amar Takhar 2024-07-18T00:13:16.767Z

Agreed on the documentation but my thought process is anyone using RTEMS 5 will be using modern machines. If they are in a situation where they have to carefully maintain an already active instance of RTEMS 5 then they will want to keep their build environment the same. We are only a year or two away from every major UNIX system killing Python 2. FreeBSD already has and some Linux distributions.

If your system is that critical you'll be hand applying patches to RTEMS and not updating your build environment anyway.

I'm of the mind we should support users who work on modern systems but need older versions of RTEMS. Also killing Python 2 across the board will be a `_massive_` help to us.

Author: Chris Johns 2024-07-18T00:13:16.767Z

We cannot assume anything about the environments users have. The machine could be isolated and under configuration control. This update changes the understood requirements for building RTEMS 5.

The 5 RSB works with python 2 and 3 and I do not understand what your concern is or how it relates? The change requires a configuration change to move to python 3 devel libs so gdb builds and my comment is nothing more than making this fact public.

Author: Amar Takhar 2024-07-18T00:13:16.767Z

Well, you did format your comment as a question .. so I thought you were asking one if you weren't then nevermind. :)

Yes I understand how it works but some projects would take the approach of not upgrading it at all and stopping at the last version(s) we could use with Python 2. That's what I thought you were asking. To be clear I agree with the upgrade.

Author: Amar Takhar 2024-07-18T00:13:16.785Z

resolved all threads

Author: Chris Johns 2024-07-19T01:15:40.788Z

mentioned in issue [rtems/rtos/rtems-release#3](#)

Author: Joel Sherrill 2024-07-29T14:29:38.116Z

changed target branch from main to 5

Author: Joel Sherrill 2024-07-29T14:29:38.134Z

assigned to @joel

Author: Joel Sherrill 2024-08-03T17:24:16.271Z

Closing since switching this from main to 5 appears to have resulted in a weird git error when trying to push it on 5:

```
1 [joel@localhost rtems-source-builder-5]$ git co 5
2 Already on '5'
3 Your branch is up to date with 'upstream/5'.
4 [joel@localhost rtems-source-builder-5]$ git pull
5 Already up to date.
6 [joel@localhost rtems-source-builder-5]$ git co update-gdb-on-5
7 Switched to branch 'update-gdb-on-5'
8 Your branch is up to date with 'origin/update-gdb-on-5'.
9 [joel@localhost rtems-source-builder-5]$ git push
10 warning: skipping unknown msg id 'symlinkpointstogitdir'
11 Everything up-to-date
12 [joel@localhost rtems-source-builder-5]$
```

Author: Amar Takhar 2024-08-03T17:24:16.271Z

@joel see <https://gitlab.rtems.org/administration/gitlab/-/issues/68>

Author: Amar Takhar 2024-08-03T17:23:59.898Z

mentioned in issue [administration/gitlab#68](#)

Author: Amar Takhar 2024-08-03T17:24:16.291Z

resolved all threads

1.8.2.9 34 - Update gdb to 14.2 for rtems 5 branch (closed)

Id	34
State	closed
Assignee(s)	Joel Sherrill
Closed by	Joel Sherrill
Created	2024-07-09T14:10:18.395Z
Closed	2024-07-09T22:01:27.885Z
Updated	2024-07-09T22:01:27.868Z
Milestone	5.4
Labels	tool::rtems-source-builder
Link	https://gitlab.rtems.org/rtems/tools/rtems-source-builder/-/merge_requests/34
Commit	3f06733abed6bd5ffd64dea4c831d7d75723183e

Summary

There were multiple issues preventing any tool builds on Cygwin. The Merge Request includes three patches which are independent of one another.

- Disable chmod on Cygwin (also needed on main)
- Back port DTC patch from main to 5
- Update gdb to 14.2 for rtems 5 branch to have a version that compiles with recent compilers

Author: Joel Sherrill 2024-07-09T14:10:18.548Z

assigned to @joel

1.9 RTEMS / Tools / RTEMS Tools

Go to *Issues* (page 349) or *Merge Requests* (page 350)

Issues Summary

25 - Backport python 3.12 fixes to 5 (page 349)

Merge Requests Summary

59 - python: Updates for Python 3.12 (page 350)
51 - gitlab: Add link to CI (page 351)

1.9.1 Issues

1.9.1.1 25 - Backport python 3.12 fixes to 5

Id	25
State	closed
Type	ISSUE
Author	Kinsey Moore
Assignee(s)	Kinsey Moore
Closed by	Kinsey Moore
Created	2025-03-31T21:04:41.366Z
Closed	2025-07-30T18:31:23.753Z
Updated	2025-07-30T18:31:23.820Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/tools/rtems-tools/-/issues/25
Merges	0

Summary

The 5 branch won't currently build with Python 3.12+. This backports the fix

Steps to reproduce

1.9.1.1.2.1 Pre-set options

Author: Kinsey Moore 2025-03-31T21:04:41.521Z

assigned to @opticron

Author: Kinsey Moore 2025-03-31T21:04:41.831Z

Author: Kinsey Moore 2025-03-31T21:06:09.975Z

mentioned in merge request [!59](#)

Author: Chris Johns 2025-04-18T22:19:41.113Z

mentioned in commit [abd2e6c8a274cfca2053dee1bec2353d59efdc7f](#)

Author: Kinsey Moore 2025-07-30T18:31:23.799Z

set status to **Done**

1.9.2 Merge Requests

1.9.2.1 59 - python: Updates for Python 3.12

Id	59
State	merged
Merged by	Chris Johns
Merged at	2025-04-18T22:19:40.675Z
Assignee(s)	Kinsey Moore
Created	2025-03-31T21:05:58.803Z
Updated	2025-04-18T22:19:41.810Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/tools/rtems-tools/-/merge_requests/59
Commit	abd2e6c8a274cfca2053dee1bec2353d59efdc7f

Summary

python: Updates for Python 3.12

- Change SafeConfigParser to ConfigParser
- Fix escape sequences in strings

Closes [#25](#)

Author: Kinsey Moore 2025-03-31T21:05:59.069Z

assigned to @opticron

Author: Chris Johns 2025-04-18T22:19:33.249Z

approved this merge request

1.9.2.2 51 - gitlab: Add link to CI

Id	51
State	merged
Merged by	Kinsey Moore
Merged at	2025-02-14T16:32:51.513Z
Assignee(s)	Amar Takhar
Created	2025-02-14T10:39:33.625Z
Updated	2025-02-14T16:32:52.622Z
Milestone	5.4
Labels	ci
Link	https://gitlab.rtems.org/rtems/tools/rtems-tools/-/merge_requests/51
Commit	ee2ea9dac092c0673fb018e80ed3564f24f91fcc

Summary

gitlab: Add link to CI

This runs only the commit message and merge request checker.

Required so we can have 'all pipelines must pass' enabled due to a bug in GitLab.

Author: Amar Takhar 2025-02-14T10:39:33.844Z

assigned to @amar

Author: Kinsey Moore 2025-02-14T16:32:46.066Z

approved this merge request

1.10 RTEMS / Tools / RTEMS Waf

Go to *Issues* (page 352) or `rtems/tools/rtems_waf-merges`

Issues Summary

5 - VERSION loading references bad code (page 352)

Merge Requests Summary

1.10.1 Issues

1.10.1.1 5 - VERSION loading references bad code

Id	5
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Closed by	Kinsey Moore
Created	2025-01-08T03:25:48.018Z
Closed	2025-01-08T03:43:07.991Z
Updated	2025-09-19T00:41:58.446Z
Milestone	5.4
Link	https://gitlab.rtems.org/rtems/tools/rtems_waf/-/issues/5
Merges	1

Loading the VERSION file in a release references bad path code. It looks like the code from taken from the RSB which has special host management.

Author: Chris Johns 2025-01-08T03:25:48.116Z

assigned to @chris

Author: Chris Johns 2025-01-08T03:28:29.906Z

mentioned in merge request [!10](#)

Author: Chris Johns 2025-01-08T03:47:20.195Z

mentioned in issue `rtems/pkg/rtems-net-legacy#6`

Author: Chris Johns 2025-01-08T03:47:26.374Z

mentioned in issue `rtems/pkg/rtems-net-services#9`

Author: Chris Johns 2025-01-08T03:55:14.326Z

cloned to [#6](#)

RTEMS 5.3

2.1 RTEMS / RTOS / RTEMS

Go to *Issues* (page 494) or *Merge Requests* (page 320)

Issues Summary

4777 - <i>Deployed RSB does not find release version config</i> (page 367)
4565 - <i>medit malloc problem of RTEMS5.1</i> (page 365)
4564 - <i>close_editor problem of RTEMS4.13/5.1</i> (page 356)
4559 - <i>ln command problem in shell of RTEMS4.13/5.1</i> (page 358)
4558 - <i>chmod problem in shell of RTEMS4.13/RTEMS5.1</i> (page 359)
4555 - <i>Remove aarch64 and microblaze from RSB on 5 branch</i> (page 362)
4408 - <i>RTEMS ARM Toolchain: armv8.0-m and armv8.1-m arch support</i> (page 363)

Merge Requests Summary

2.1.1 Issues

2.1.1.1 4564 - close_editor problem of RTEMS4.13/5.1

Id	4564
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-12-05T14:03:15.000Z
Updated	2025-09-19T01:22:45.313Z
Milestone	5.3
Labels	cpukit::shell, priority::normal, resolution::fixed, rtems::shell, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4564
Merges	1

Original author: chenjin_zhong

Hi, I find when close editor in shell console.some errors will occur. I check and analyse the source code of medit.c. the code fragment is listed as follows.

```
if defined(__rtems__)
```

```
case ctrl('w'): ed = ed->env->current; close_editor(ed); break;
```

```
else
```

```
case ctrl('w'): close_editor(ed); ed = ed->env->current; break;
```


endif

```
static void close_editor(struct editor *ed) { struct env *env = ed->env; if (ed->dirty) { display_message(ed, "Close %s without saving changes (y/n)? ", ed->filename); if (!ask()) { ed->refresh = 1; return; } }
```

```
delete_editor(ed);
```

```
ed = env->current; if (!ed) { ed = create_editor(env); new_file(ed, ""); } ed->refresh = 1; }
```

```
static void delete_editor(struct editor ed) { if (ed->next == ed) { ed->env->current = NULL; } else { ed->env->current = ed->prev; } ed->next->prev = ed->prev; ed->prev->next = ed->next; if (ed->start) free(ed->start); clear_undo(ed); * free(ed);** }
```

as seen above, if the macro `__rtems__` is defined. the `delete_editor` function will free `ed` pointer. Therefore, after the next loop, the `ed` is an invalid pointer. I have checked the code of <https://github.com/ringgaard/sanos/blob/master/src/utils/edit/edit.c>. the code is as follows. **case** `ctrl('w')`: `close_editor(ed); ed = ed->env->current; break;`

Author: Chris Johns 2022-11-10T00:52:24.000Z

Original author: chenjin_zhong

- **Milestone** changed from %”5.1” to %”5.3”

Author: Chris Johns 2023-01-30T02:39:45.000Z

Original author: chenjin_zhong

The original code is wrong and the change made by Joel due to Coverity is also wrong because the `ed` passed into `close_editor()` is the next editor and not the one we want closed.

Author: Trac Migrate 2023-01-31T05:20:41.000Z

Original author: chenjin_zhong

- **Owner** set to Chris Johns <chrisj@rtems.org>
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In [changeset:”45f60cfbcff6ab714c441d6c87b6ff919f02f49f/rtems”
45f60cf/rtems]:

```
1 libmisc/shell/edit: Fix closing the editor
2
3 Closes #4564
```

Author: Gedare Bloom 2025-06-10T15:03:17.766Z

changed the description

Author: Gedare Bloom 2025-06-10T15:03:20.352Z

mentioned in issue [#4834](#)

2.1.1.2 4559 - ln command problem in shell of RTEMS4.13/5.1

Id	4559
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-12-02T15:47:45.000Z
Updated	2025-09-19T01:22:29.956Z
Milestone	5.3
Labels	cpukit::shell, priority::normal, resolution::wontfix, rtems::shell, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4559
Merges	0

Original author: chenjin_zhong

Hi, when I use `ln -s /tmp/file` in shell. I think the meaning of this instruction is to create a symbolic link, which points to `/tmp/file` in current directory. But I find that the code implements this function is `**exit(linkit(globals, argv[0], ".", 1))`. The src code of `linkit` function is listed as follows.

```
int linkit(rtems_shell_ln_globals* globals, const char source, const char *target, int isdir).
if (isdir || (!lstat(source, &sb) && S_ISDIR(sb.st_mode)) || (!hflag && !lstat(source, &sb)
&& S_ISDIR(sb.st_mode))) { if ((p = strrchr(target, '/')) == NULL) p = target; else ++p;
(void)snprintf(path, sizeof(path), "%s/%s", source, p); **source = path;* } if ((*linkf)(target,
source)) { warn("%s", source); return (1); } As shown in black bold, variable source is a
directory. Therefore, I think the target is argv[0]. the source is ".". Therefore, the code
exit(linkit(globals, argv[0], ".", 1)) should be replaced with exit(linkit(globals, ".", argv[0],
1)).
```

Author: Chris Johns 2022-11-10T00:51:03.000Z

Original author: chenjin_zhong

- **Milestone** changed from `%5.1` to `%5.3`

Author: Chris Johns 2023-01-30T02:32:20.000Z

Original author: chenjin_zhong

The latest code in FreeBSD has the values swapped:

<https://github.com/freebsd/freebsd-src/blob/main/bin/ln/ln.c#L152> <https://github.com/freebsd/freebsd-src/blob/main/bin/ln/ln.c#L225>

Can we swap them in a release or will that break existing scripts?

Author: Chris Johns 2023-02-08T03:15:24.000Z

Original author: chenjin_zhong

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

I am closing this because the change will not be backwards compatible to 5.2 and 5.1. It is suitable for 6.

Author: Gedare Bloom 2025-06-10T15:03:13.650Z

changed the description

2.1.1.3 4558 - chmod problem in shell of RTEMS4.13/RTEMS5.1

Id	4558
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-12-02T14:53:45.000Z
Updated	2025-09-19T01:22:15.871Z
Milestone	5.3
Labels	cpukit::shell, priority::normal, resolution::fixed, rtems::shell, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4558
Merges	1

Original author: chenjin_zhong

Hi, I find one problem in `rtems_shell_main_chmod` function. the usage of this instruction is described as "`chmod 0777 n1 n2... #change filemode`", the src code is listed as follows. the bold part should be replaced with **`chmod(argv[n], mode)`**?

```

1 static int rtems_shell_main_chmod(
2 int argc,
3 char *argv[]
4 )
5 {
6 int          n;
7 mode_t       mode;
8 unsigned long tmp;
9
10 if (argc < 2) {
11 fprintf(stderr, "%s: too few arguments\n", argv[0]);
12 return -1;

```

(continues on next page)

(continued from previous page)

```

13 }
14
15 /*
16 * Convert arguments into numbers
17 */
18 if ( rtems_string_to_unsigned_long(argv[1], &tmp, NULL, 0) ) {
19 printf( "Mode argument (%s) is not a number\\n", argv[1] );
20 return -1;
21 }
22 mode = (mode_t) (tmp & 0777);
23
24 /*
25 * Now change the files modes
26 */
27 for (n=2 ; n < argc ; n++)
28 chmod(argv[n++], mode); /* <<<< here */
29
30 return 0;
31 }

```

Author: Chris Johns 2022-11-10T00:49:01.000Z

Original author: chenjin_zhong

- **Description** changed

```

1 Hi, I find one problem in rtems_shell_main_chmod function. the usage of
2 ↪ this instruction is described as "chmod 0777 n1 n2... #change
3 ↪ filemode", .the src code is listed as follows. the bold part should
4 ↪ be replaced with **chmod(argv[n], mode)**?
5
6 -
7 + {{{
8 static int rtems_shell_main_chmod(
9 int argc,
10 char *argv[]
11 )
12 {
13 int n;
14 mode_t mode;
15 unsigned long tmp;
16
17 if (argc < 2) {
18 fprintf(stderr, "%s: too few arguments\\n", argv[0]);
19 return -1;
20 }
21
22 /*
23 * Convert arguments into numbers

```

(continues on next page)

(continued from previous page)

```

21 */
22 if ( rtems_string_to_unsigned_long(argv[1], &tmp, NULL, 0) ) {
23 printf( "Mode argument (%s) is not a number\\n", argv[1] );
24 return -1;
25 }
26 mode = (mode_t) (tmp & 0777);
27
28 /*
29 * Now change the files modes
30 */
31 for (n=2 ; n < argc ; n++)
32 -   ** chmod(argv[n++], mode);**
33 ?   --
34
35 +   chmod(argv[n++], mode); /* <<<< here */
36 ?                               ++ ++++++++ +
37
38
39 return 0;
40 }
41 + }}}

```

- **Milestone** changed from %”5.1” to %”5.3”

This is also valid on main.

Author: Trac Migrate 2023-01-31T05:20:39.000Z

Original author: chenjin_zhong

- **Owner** set to Chris Johns <chrisj@rtems.org>
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In [changeset:”2243fd6d6b2faa7f7f734c8bcc6c320b34a160cb/rtems”
2243fd6/rtems]:

```

1 libmisc/shell/chmod: Fix multiple file arguments to the command
2
3 Closes #4558

```

Author: Gedare Bloom 2025-06-10T15:03:13.114Z

changed the description

Author: Gedare Bloom 2025-06-10T15:03:18.936Z

mentioned in issue [#4751](#)

2.1.1.4 4555 - Remove aarch64 and microblaze from RSB on 5 branch

Id	4555
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-12-01T16:38:37.000Z
Updated	2025-09-19T01:21:58.343Z
Milestone	5.3
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4555
Merges	0

Original author: rlong

These tools don't have a port to RTEMS 5, so there's no reason for them to be on the 5 branch.

Author: Trac Migrate 2021-12-17T15:24:08.000Z

Original author: rlong

- **Milestone** changed from %"5.1" to %"Indefinite"

Author: Joel Sherrill 2021-12-17T15:35:56.000Z

Original author: rlong

- **Milestone** changed from %"Indefinite" to %"5.2"

Should be 5.2 not Indefinite

Author: Chris Johns 2022-11-09T22:36:10.000Z

Original author: rlong

This was changed to 5.2 last year. Should it be closed?

Author: Chris Johns 2022-12-06T22:47:48.000Z

Original author: rlong

- **Milestone** changed from %"5.2" to %"Indefinite"

It is now too late to do this. Please assign a milestone if you wish to do this work.

Author: Joel Sherrill 2022-12-19T21:12:51.000Z

Original author: rlong

- **Milestone** changed from %”Indefinite” to %”5.3”

Author: Trac Migrate 2023-01-30T22:46:53.000Z

Original author: rlong

- **Owner** set to Joel Sherrill <joel@rtems.org>
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In [changeset:”9144a4ab7f4afb1bf1b66e1686b9eab46c359d67/rtems-source-builder” 9144a4a/rtems-source-builder]:

```
1 Remove aarch64 and microblaze from RSB on 5 branch
2
3 Closes #4555.
```

Author: Chris Johns 2025-09-19T01:11:05.768Z

changed the description

2.1.1.5 4408 - RTEMS ARM Toolchain: armv8.0-m and armv8.1-m arch support

Id	4408
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-05-12T09:47:13.000Z
Updated	2025-09-19T01:21:24.977Z
Milestone	5.3
Labels	priority::normal, resolution::wontfix, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4408
Merges	0

Original author: tigrant

Dear RTMES OS devel team,

The RTEMS ARM latest toolchain (based on v5.1 release) supports cortex-m7 which is using armv7-m architecture.

Are you planning to upgrade your toolchain version and add support for cortex-m33 and cortex-m55 CPUs which are using armv8.0-m and armv8.1-m architectures ?

Thank you.

Best Regards, Tigran

Author: Joel Sherrill 2021-05-12T14:52:52.000Z

Original author: tigrant

If you need a newer toolchain, you should use rtems6 (e.g. git master). It is using gcc 10.

We tend to not update the toolchains for release branches. And newer architecture versions would also be added to master, not the release branch.

Are there specific deficiencies on the master and its tool chain?

Author: Trac Migrate 2021-05-12T16:04:48.000Z

Original author: tigrant

Hi Joel,

Thank you very much for your response.

As far as I understand “git master” contains only RTEMS kernel source code, but not a toolchain. (please correct me if I wrong)

Would you please clarify where from can I get the newer RTEMS GCC 10 based toolchain ? For example, for release 5.1.0 I have used RTEMS v5 RSB to build the toolchain. How can I build newer GCC 10 based toolchain without having corresponding RTEMS v6 RSB ? (As I know RTEMS using customised version of toolchain based on GCC and I have to compile RTEMS kernel using RTEMS toolchain).

Would you please advise ? Thank you.

Best Regards, Tigran

Author: Joel Sherrill 2021-05-12T16:35:42.000Z

Original author: tigrant

There is no GCC 10 RSB recipe for RTEMS 5. You could modify the arm gcc version in your **local** 5 branch based on what is in 6. You will need to keep the newlib version the same, but the gcc should be able to be changed.

I don't know what it would be called but a more bleeding edge gcc might be nice for a release branch. For rtems master, we refer to that as rtems7.

For sure, updating GCC past 7 on rtems5 will break some BSPs. At least some PowerPC BSPs need SPE support which was dropped after 7 and I think the ARM changed some compiler flags. But, in theory, there isn't anything wrong with having a newer GCC as an alternative. But it would have to be disclaimed that all testing for the release was done with GCC 7 and anything newer would be at some risk of breakage. And I don't know what the toolchain would be called. It isn't 6 and isn't 5.

Author: Trac Migrate 2021-05-12T17:03:40.000Z

Original author: tigrant

Hi Joel,

Thanks a lot. I will change the GCC version in rtems-source-builder-5.1 to gcc 10.x and will try to build the new toolchain. After that will try to compile the latest “git master”.

May I ask you please to clarify the sentence: “You could modify the arm gcc version in your local 5 branch based on what is in 6.” ?

Best Regards, Tigran

Author: Chris Johns 2022-11-10T00:12:54.000Z

Original author: tigran

- **Milestone** changed from %”5.1” to %”5.3”
- **Resolution** set to ~”wontfix”
- **Status** changed from *new* to *closed*

Please reopen if this is an issue or please ask on the users list if help is needed.

Author: Chris Johns 2025-09-19T01:10:59.508Z

changed the description

2.1.1.6 4565 - medit malloc problem of RTEMS5.1

Id	4565
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-12-05T14:19:24.000Z
Updated	2025-09-19T01:20:47.935Z
Milestone	5.3
Labels	cpukit::shell, priority::normal, resolution::fixed, rtems::shell, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4565
Merges	1

Original author: chenjin_zhong

I find malloc function is called by move_gap function in medit.c. The returned value does not check. At least 32KB of memory is allocated at each time, maybe more than. The returned value “start” should be check to avoid malloc failure. The move_gap function should return immediatelly when malloc failure. the code frament is listed as follows.

```
static void move_gap(struct editor *ed, int pos, int minsize) { int gapsize = ed->rest - ed->gap;
unsigned char *p = text_ptr(ed, pos); if (minsize < 0) minsize = 0; if (minsize <= gapsize)
{ if (p != ed->rest) { if (p < ed->gap) { memmove(p + gapsize, p, ed->gap - p); } else {
memmove(ed->gap, ed->rest, p - ed->rest); } ed->gap = ed->start + pos; ed->rest = ed-
>gap + gapsize; } } else { int newsize; unsigned char *start; unsigned char *gap; unsigned
char *rest; unsigned char *end;
```

```

if (gapsize + MINEXTEND > minsize) minsize = gapsize + MINEXTEND; newsize = (ed->end
- ed->start) - gapsize + minsize; ** start = (unsigned char ) malloc(newsize);* // TODO check
for out of memory gap = start + pos; rest = gap + minsize; end = start + newsize;

if (p < ed->gap) { memcpy(start, ed->start, pos); memcpy(rest, p, ed->gap - p); memcpy(end
- (ed->end - ed->rest), ed->rest, ed->end - ed->rest); } else { memcpy(start, ed->start, ed-
>gap - ed->start); memcpy(start + (ed->gap - ed->start), ed->rest, p - ed->rest); mem-
cpy(rest, p, ed->end - p); }

free(ed->start); ed->start = start; ed->gap = gap; ed->rest = rest; ed->end = end; }

#ifdef DEBUG

memset(ed->gap, 0, ed->rest - ed->gap);

#endif
}

```

Author: Chris Johns 2022-11-10T00:54:28.000Z

Original author: chenjin_zhong

- **Milestone** changed from %”5.1” to %”5.3”

Author: Trac Migrate 2023-01-31T05:20:44.000Z

Original author: chenjin_zhong

- **Owner** set to Chris Johns <chrisj@rtems.org>
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In [changeset:”b7f1fa2f89244347472fa1f6829287bcab285730/rtems”
b7f1fa2f/rtems]:

```

1 libmisc/shell/edit: Return if no memory in move_gap
2
3 Closes #4565

```

Author: Gedare Bloom 2025-06-10T15:03:14.107Z

changed the description

Author: Gedare Bloom 2025-06-10T15:03:16.386Z

mentioned in issue [#4835](#)

2.1.1.7 4777 - Deployed RSB does not find release version config

Id	4777
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-12-18T03:40:53.000Z
Updated	2025-09-19T01:20:02.688Z
Milestone	5.3
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4777
Merges	0

The RSB does not find the VERSION file when released.

Author: Trac Migrate 2022-12-18T04:50:27.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"c665be18f6c282b89226fded29a7d146f8b540d3/rtems-source-builder" c665be1/rtems-source-builder]:

```

1 sb: Find the top when a release
2
3 Closes #4777

```

Author: Chris Johns 2025-09-19T01:11:15.076Z

changed the description

RTEMS 5.2

3.1 RTEMS / RTOS / RTEMS

Go to [Issues](#) (page 494) or [Merge Requests](#) (page 320)

Issues Summary

4761 - RSB fatal error on missing hash checksums (cloned) (page 391)
 4758 - Net-Snmp referenced patch missing (page 390)
 4757 - RSB freetype 2.4.10 source not hosted any longer (page 389)
 4755 - Docs build system does not build singlehtml (page 389)
 4754 - Set RSB GDB source path to https (page 388)
 4752 - RTEMS docs do not build with a recent sphinx (page 387)
 4734 - RSB decode exception stops build (page 376)
 4733 - Set top in RSB version.py (page 377)
 4731 - rtems-source-builder doesn't generate tar archives for all packages any more (page 378)
 4727 - RSB decode exception stops build (page 379)
 4725 - Git commit message format instructions (cloned) (page 372)
 4717 - Add RSB Deployment support (page 386)
 4716 - Backport RSB fixes from Development (page 384)
 4715 - RSB get sources misses a number of files (page 380)
 4711 - RSB does not expand dir type macros correctly (cloned) (page 374)
 4709 - Installed header break C++ (page 375)
 4704 - Fix invalid RSB source URLs (page 373)
 4687 - Documentation List for Releases Completely Missing 5.x (page 373)
 4683 - Leaked BSP section flags in Makefile.inc breaks EPICS (page 382)
 4655 - sync() would synchronize all file descriptors (page 418)
 4567 - Atomic store does not use the order parameter for C++ (cloned) (page 397)
 4370 - RTEMS5: Add spi driver for AXI SPI ip core from Xilinx (cloned) (page 420)
 4369 - RTEMS5: Add driver for cadence-spi device for xilinx based BSPs (cloned) (page 421)
 4359 - Priority discipline is broken for semaphores and message queues in SMP configurations (cloned) (page 422)
 4357 - rtems_semaphore_set_priority() uses an invalid SMP lock (cloned) (page 405)
 4347 - Allow RTEMS_PRIORITY for MrsP semaphores (page 398)
 4316 - grlib,grspw_pkt: SpaceWire link-state defines corrected (page 422)
 4315 - grlib,l2cache: prevent unused diagnostic access (page 423)
 4314 - grlib,ahbstat: add new register definitions for AHBSTAT version 1 (page 424)
 4313 - grlib,grspw_router: add function to control SpaceWire run clock divisor (page 425)
 4312 - bsps,leon3: need to make cpucounter restart after underflow (page 426)
 4311 - bsps,leon3: _st64() did not follow the SPARC ABI (page 427)
 4310 - bsps,leon3: BSP assumes that timer pre-scaler runs at 1MHz (page 419)
 4309 - bsps,leon3: avoid BSP dependency on apbuart/timer driver (page 428)
 4308 - grlib,greth: added support for variable sized descriptor table sizes (page 429)
 4307 - grlib,grcanfd: extend the GRCAN driver with GRCANFD support (page 430)
 4306 - grlib,can: introduce a new common CAN baud-rate timing calculating functions (page 432)
 4305 - grlib,ambapp: update GRLIB IP core ID list (page 433)
 4304 - grlib,grspw: SET_PACKET_SIZE could use old DMA address (page 434)
 4303 - grlib,gr1553bc: better check of the DMA area address alignment (page 435)
 4275 - GR1553B: use new codec available in GR740 revision 1 (page 404)
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 4266 - motorola_powerpc bootloader images not linking correctly (page 438)
 4263 - Activate ehci_pci in rtems-libbsd (page 436)

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4248 - PowerPC shared ISA IRQ support is broken (cloned) (page 442)
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2746 - RTEMS gdb python script do not load. (page 414)

Merge Requests Summary

3.1.1 Issues

3.1.1.1 4725 - Git commit message format instructions (cloned)

Id	4725
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Joel Sherrill
Created	2022-09-26T01:50:47.000Z
Updated	2025-09-19T01:28:32.304Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4725
Merges	0

The Eng docs [Creating A Patch](#) references the Wiki. The content should be in the manual.

Note lots of git related bits are in the Eng manual and still on the Wiki so which is correct?

Author: Chris Johns 2022-11-15T10:29:58.000Z

Why is this on the 5 branch?

Author: Joel Sherrill 2022-12-14T23:25:58.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d144cf0962e7e6881cbdd3ac93afa4fe0a489f5d/rtems-docs" d144cf0/rtems-docs]:

```
1 eng/vc-users.rst: Add commit message guidance
2
3 Closes #4275.
```

Author: Chris Johns 2025-09-19T01:11:12.893Z

changed the description

3.1.1.2 4704 - Fix invalid RSB source URLs

Id	4704
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-08-17T06:12:26.000Z
Updated	2025-09-19T01:28:32.188Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4704
Merges	0

Some packages now have invalid source URLs

Author: Chris Johns 2022-12-06T22:45:21.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

The release fetching of sources is now clean.

Author: Chris Johns 2025-09-19T01:11:11.875Z

changed the description

3.1.1.3 4687 - Documentation List for Releases Completely Missing 5.x

Id	4687
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2022-07-27T18:27:48.000Z
Updated	2025-09-19T01:28:32.073Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4687
Merges	0

See <https://docs.rtems.org/releases.html> and fix it. :)

Author: Chris Johns 2022-11-09T23:29:04.000Z

- **Resolution** set to ~"fixed"

- **Status** changed from *assigned* to *closed*

The website now handles the 5.1 release correctly.

Author: Chris Johns 2025-09-19T01:11:11.559Z

changed the description

3.1.1.4 4711 - RSB does not expand dir type macros correctly (cloned)

Id	4711
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-08-28T22:34:28.000Z
Updated	2025-09-19T01:28:31.922Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4711
Merges	0

Cloned from [#4710](#):

The expansion of the `dir` type macros is not done correctly. Macro replacement only appends the file part to the last element of a path list. For example:

```
1 %{mydir}/abc.cfg
```

with a path of:

```
1 %define mydir x:y:z
```

results in:

```
1 x:y:z/abc.cfg
```

The config load code handles this but it is wrong. The expansion of `dir` type macro variables should handle path separators (`:`) so you get:

```
1 x/abc.cfg:y/abc.cfg:z.abc.cfg
```

This has not been a problem in the RSB because the `_configdir` has only had two elements and the last one only ever had subdirectories.

Author: Chris Johns 2022-11-09T23:32:16.000Z

- **Resolution** set to ~"fixed"

- **Status** changed from *assigned* to *closed*

Fixed with backports from main for deployment.

Author: Chris Johns 2025-09-19T01:11:12.204Z

changed the description

3.1.1.5 4709 - Installed header break C++

Id	4709
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-08-26T01:38:01.000Z
Updated	2025-09-19T01:28:31.796Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4709
Merges	1

Some headers generate C++ errors and so cannot be included.

Author: Trac Migrate 2022-08-29T03:23:10.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"c5b794227b72c99538f725919eaa0c90636df3d1/rtems" c5b7942/rtems]:

```

1 cpukit/include: Fix including in C++
2
3 Closes #4709

```

Author: Chris Johns 2025-09-19T01:11:12.025Z

changed the description

3.1.1.6 4734 - RSB decode exception stops build

Id	4734
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-09-29T23:11:12.000Z
Updated	2025-09-19T01:28:31.646Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4734
Merges	0

Cloned from [#4726](#):

Building in a Rocky VM on FB 12 with 5 I got:

```

1 Traceback (most recent call last):
2 File "/usr/lib64/python3.9/threading.py", line 973, in _bootstrap_inner
3 self.run()
4 File "/usr/lib64/python3.9/threading.py", line 910, in run
5 self._target(*self._args, **self._kwargs)
6 File "/opt/work/chris/rtems/rsb/rtems-source-builder.git/source-builder/sb/
  ↳ execute.py", line 204, in _readthread
7 data = data.decode(sys.stdout.encoding)
8 UnicodeDecodeError: 'utf-8' codec can't decode byte 0xe2 in position 4095:
  ↳ unexpected end of data

```

If the data is corrupted or broken things stop. Fix to attempt to keep going.

This issue also effect rtems-tools.

Author: Trac Migrate 2022-09-29T23:13:14.000Z

In [changeset:"ddfcc320ab740cd6ac30d70aaff7987dda25ee7f/rtems-source-builder" ddfcc32/rtems-source-builder]:

```

1 sb/execute: Use a decoder that maintains state across blocks
2
3 Update #4734

```

Author: Trac Migrate 2022-09-30T20:19:01.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"af0f612c4656d556efcaa03119475ca6fbdc7928/rtems-source-builder" af0f612/rtems-source-builder]:

```

1 sb/execute: Fix incremental decoder with --dry-run
2
3 Closes #4734

```

Author: Chris Johns 2025-09-19T01:11:13.752Z

changed the description

3.1.1.7 4733 - Set top in RSB version.py

Id	4733
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-09-29T08:15:41.000Z
Updated	2025-09-19T01:28:31.529Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4733
Merges	0

Cloned from [#4732](#):

Setting the top lets the code be used in deployment to get the version of the RSB being used. An RSB version lets a user track the exact tools being built and version numbers reported by the tools can match the packaged build, eg an rpm name and version info.

Author: Trac Migrate 2022-09-29T23:13:12.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"08ca387229e6ec697f34050d8ead26a38464aa5/rtems-source-builder" 08ca387/rtems-source-builder]:

```

1 sb/version: Set top from external package
2
3 Closes #4733

```

Author: Chris Johns 2025-09-19T01:11:13.480Z

changed the description

3.1.1.8 4731 - rtems-source-builder doesn't generate tar archives for all packages any more

Id	4731
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2022-09-29T08:12:46.000Z
Updated	2025-09-19T01:28:31.399Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4731
Merges	0

Original author: Christian Mauderer

Cloned from [#4730](#):

Like discussed in the following mailing list thread, the rtems-source-builder doesn't generate tar archives for all packages anymore:

<https://lists.rtems.org/pipermail/devel/2022-September/073369.html>

All RTEMS tools build sets 6/rtems-* work fine except for 6/rtems-microblaze. devel/qemu and devel/dtc do not generate a tar archive. If the patch

<https://git.rtems.org/rtems-source-builder/commit/?id=6205068c5a429e9ee1b471f4c8a3a119bb6757b2>

is reverted, the tar files are generated just like before.

Author: Trac Migrate 2022-09-29T23:13:11.000Z

Original author: Christian Mauderer

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"6f1e9149b5b22248ee80a5368699817200b5b3a4/rtems-source-builder" 6f1e914/rtems-source-builder]:

```
1 sb/set-builder: Fix staging and tar file generation with a single_
  ↪ config build
2
3 Closes #4731
```

Author: Chris Johns 2022-09-30T02:24:57.000Z

Original author: Christian Mauderer

- **Resolution** ~"fixed" deleted

- **Status** changed from *closed* to *reopened*

This has broken staging for multiple packages in a top level buildset.

Author: Trac Migrate 2022-09-30T20:19:03.000Z

Original author: Christian Mauderer

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

In [changeset:"d592ee88380786a93af9b4baea691c3e61f4cbf2/rtems-source-builder" d592ee8/rtems-source-builder]:

```
1 sb/set-bulder: Fix installing builds when a single buildset
2
3 - Always stage a build
4
5 - Install if installable and outter most buildset instance
6
7 Closes #4731
```

Author: Chris Johns 2025-09-19T01:11:13.239Z

changed the description

3.1.1.9 4727 - RSB decode exception stops build

Id	4727
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-09-26T05:39:18.000Z
Updated	2025-09-19T01:28:31.280Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4727
Merges	0

Building in a Rocky VM on FB 12 with 5 I got:

```
1 Traceback (most recent call last):
2 File "/usr/lib64/python3.9/threading.py", line 973, in _bootstrap_inner
3 self.run()
4 File "/usr/lib64/python3.9/threading.py", line 910, in run
5 self._target(*self._args, **self._kwargs)
6 File "/opt/work/chris/rtems/rsb/rtems-source-builder.git/source-builder/sb/
  ↳ execute.py", line 204, in _readthread
```

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```

7 data = data.decode(sys.stdout.encoding)
8 UnicodeDecodeError: 'utf-8' codec can't decode byte 0xe2 in position 4095:
  ↳unexpected end of data

```

If the data is corrupted or broken things stop. Fix to attempt to keep going.

Author: Chris Johns 2022-09-26T05:39:53.000Z

- **Summary** changed from *RSB decode exception stops build (cloned)* to *RSB decode exception stops build*

Author: Chris Johns 2022-11-09T23:48:42.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

Fixed <https://git.rtems.org/rtems-source-builder/commit/?h=5&id=ddfcc320ab740cd6ac30d70aaff7987dda25ee7f>

Author: Chris Johns 2025-09-19T01:11:13.059Z

changed the description

3.1.1.10 4715 - RSB get sources misses a number of files

Id	4715
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-09-08T03:40:07.000Z
Updated	2025-09-19T01:28:31.155Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4715
Merges	0

Back port the changes from the development branch. The get sources tool is used during the release to collect the sources so they are hosted on <https://ftp.rtems.org>

The changes exposes a number of configuration file issues on the 5 branch.

Author: Trac Migrate 2022-09-19T21:24:53.000Z

In [changeset:”3138ff5295f27883f1f01feefc76fee36b34ea6c/rtems-source-builder”
3138ff5/rtems-source-builder]:


```

1 sb/getsources: Fix getting sources
2
3 - Back ported from the development branch
4
5 Updates #4715

```

Author: Trac Migrate 2022-09-19T21:24:56.000Z

In [changeset:"db3d470c3126e9cddbd301d70876f78a16789f69/rtems-source-builder" db3d470/rtems-source-builder]:

```

1 sb/getsources: Fixes to configurations
2
3 Updates #4715

```

Author: Chris Johns 2022-11-09T23:32:33.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Author: Chris Johns 2022-11-11T02:57:37.000Z

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

More missed files.

Author: Trac Migrate 2022-11-14T20:58:24.000Z

In [changeset:"5992bc9519a183b04b737136601332358ec3e3da/rtems-source-builder" 5992bc9/rtems-source-builder]:

```

1 bare/gcc: Remove gcc-4.8.2 because newlib references the unsupported CVS
2
3 Updates #4715

```

Author: Trac Migrate 2022-11-14T22:36:16.000Z

In [changeset:"b57948f66684b2b161f84065f9b6d87dfba8cdcb/rtems-source-builder" b57948f/rtems-source-builder]:

```

1 rtems: Update source and patch URLs to valid locations
2
3 Updates #4715

```

Author: Trac Migrate 2022-11-15T21:42:36.000Z

In [changeset:"3ec64413c9d7a74a58b48b0e64f89cc43516d719/rtems-source-builder" 3ec6441/rtems-source-builder]:

```
1 rtems: Update source and patch URLs to valid locations
2
3 Updates #4715
```

Author: Trac Migrate 2022-11-15T23:10:26.000Z

In [changeset:"1116c5f85fb5dceca4a57c1b69195b6e9215b084/rtems-source-builder" 1116c5f/rtems-source-builder]:

```
1 rtems: Add back gcc-4.6 build configuration
2
3 Updates #4715
```

Author: Chris Johns 2022-12-06T22:46:37.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

The release now fetches all sources.

Author: Chris Johns 2025-09-19T01:11:12.438Z

changed the description

3.1.1.11 4683 - Leaked BSP section flags in Makefile.inc breaks EPICS

Id	4683
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2022-07-21T05:47:07.000Z
Updated	2025-09-19T01:28:31.041Z
Milestone	5.2
Labels	priority::normal, resolution::invalid, rtems::build, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4683
Merges	0

RTEMS 5 added `-ffunction-sections` `-fdata-sections` to the target flags for BSPs in an architecture that supports code and data sections.

Some EPICS code such as the **NTP** have code the linker does not link into the final executable. The data sections means the done variable is not linked into the executable when a function in the module is referenced.

RTEMS 6 only exports the ABI flags and any internal build flags are not exported.

EPICS should also review this type of code because it excludes potential optimizations.

Author: Chris Johns 2022-07-21T05:52:08.000Z

- **Description** changed

```

1 RTEMS 5 added `--function-sections -fdata-sections` to the target flags.
  ↳ for BSPs in an architecture that supports code and data sections.
2
3 - Some EPICS code such as the [NTP have code](https://github.com/epics-
  ↳ base/epics-base/blob/7.0/modules/libcom/src/osi/os/RTEMS-score/
  ↳ osdTime.cpp#L148). The data sections means the `done` variable is not
  ↳ linked into the executable when a function in the module is
  ↳ referenced.
4 ?
  ↳
  ↳
  ↳
5
6 + Some EPICS code such as the [NTP](https://github.com/epics-base/epics-
  ↳ base/blob/7.0/modules/libcom/src/osi/os/RTEMS-score/osdTime.cpp#L148)
  ↳ have code the linker does not link into the final executable. The
  ↳ data sections means the `done` variable is not linked into the
  ↳ executable when a function in the module is referenced.
7 ?
  ↳
  ↳
  ↳
8
9
10 RTEMS 6 only exports the ABI flags and any internal build flags are not
  ↳ exported.
11
12 EPICS should also review this type of code because it excludes
  ↳ potential optimizations.

```

Author: Joel Sherrill 2022-07-21T14:26:42.000Z

This is not a good code pattern to use if per item sectioning is used. There is no reference to the variable done at all and no reason for it to be included. Why not just call an explicit initialization method?

Author: Chris Johns 2022-11-09T22:39:30.000Z

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

This topic has been discussed in an EPICS github issue [#288](#) and Michael thinks the flags are fine. Further testing has shown no real issue. I will set this ticket to invalid and close it. It can be reopened if it is a problem.

Author: Chris Johns 2025-09-19T01:11:11.382Z

changed the description

3.1.1.12 4716 - Backport RSB fixes from Development

Id	4716
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-09-08T05:31:58.000Z
Updated	2025-09-19T01:28:30.922Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4716
Merges	0

Backport RSB fixes from the development branch.

Author: Trac Migrate 2022-09-19T21:24:54.000Z

In [changeset:"6116d9c872895a659026b6dbd1cdb2faaffc6dd7/rtems-source-builder" 6116d9c/rtems-source-builder]:

```
1 sb: Back port fixes from the development branch
2
3 Updates #4716
```

Author: Trac Migrate 2022-09-19T21:24:58.000Z

In [changeset:"e85e2a730009fd1833fd7702a5332cab015cdfcc/rtems-source-builder" e85e2a7/rtems-source-builder]:

```
1 sb/setbuilder: Support line continuation
2
3 Updates #4716
```

Author: Trac Migrate 2022-09-19T21:24:59.000Z

In [changeset:"0253d81ad2a19101c540c49c54b314e0290a6189/rtems-source-builder" 0253d81/rtems-source-builder]:

```

1 sb/config: Correctly handle multiple config paths
2
3 - Add rtems/config to the config directories searched to better
4 support deployment
5
6 - Correctly expand the configdir and path searches
7
8 Updates #4716

```

Author: Trac Migrate 2022-09-19T21:25:01.000Z

In [\[changeset:"828feec622c3ebfdf96a50f5789fcace93717f82/rtems-source-builder" 828feec/rtems-source-builder\]](#):

```

1 sb/setbuilder: Correctly create build set tar files
2
3 - Make a single tarfile for all buildsets built
4
5 - Use the staging tree as the tarfile source
6
7 - Use python's tarfile module
8
9 - Create a config.file object without loading a .cfg file
10
11 Updates #4716

```

Author: Trac Migrate 2022-09-19T21:25:02.000Z

In [\[changeset:"25972d90824bd3f3f416ad9bfbba286f98b5b63d/rtems-source-builder" 25972d9/rtems-source-builder\]](#):

```

1 sb/setbuilder: Do not install if --no-install option is used
2
3 - This is a bug introduced in the recent bset tar file changes
4
5 Updates #4716

```

Author: Trac Migrate 2022-09-19T21:25:05.000Z

In [\[changeset:"6afc04b3328351c34d961e8bd6441aaddbeb3c0a/rtems-source-builder" 6afc04b/rtems-source-builder\]](#):

```

1 sb/setbuilder: Install the build when staging or configured to install
2
3 Updates #4716

```

Author: Chris Johns 2022-11-09T23:32:51.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

Author: Chris Johns 2025-09-19T01:11:12.591Z

changed the description

3.1.1.13 4717 - Add RSB Deployment support

Id	4717
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-09-14T07:09:32.000Z
Updated	2025-09-19T01:28:30.811Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::enhancement, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4717
Merges	0

Provide deployment support for RTEMS 5.

The support will be a single architecture with multiple BSPs for that architecture.

This change does not effect any existing functionality.

Author: Trac Migrate 2022-09-19T21:25:04.000Z

In [changeset:"16d4f2c934b49482d4a4f570ecea2d025eeef00d/rtems-source-builder" 16d4f2c/rtems-source-builder]:

```

1 rtems/kernel: Support deployment standard buildset configs
2
3 - Check and optionally support arch/bsp format 'with_rtems_bsp' defines
4
5 Updates #4717
```

Author: Trac Migrate 2022-09-30T20:19:04.000Z

In [changeset:"369b60a0b4ed961eba8da634d09691841e67e3de/rtems-source-builder" 369b60a/rtems-source-builder]:

```

1 rtems/bsps: Optionally support arch/bsp if used
2
3 Updates #4717
```

Author: Chris Johns 2022-11-09T23:33:09.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Author: Chris Johns 2025-09-19T01:11:12.741Z

changed the description

3.1.1.14 4752 - RTEMS docs do not build with a recent sphinx

Id	4752
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-11-10T04:00:02.000Z
Updated	2025-09-19T01:26:07.294Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4752
Merges	0

The build does not configure:

```

1 $ ./waf distclean configure --prefix=/opt/src/rtems/test --pdf --singlehtml
2 'distclean' finished successfully (0.000s)
3 Setting top to                               : /opt/work/chris/rtems/docs/rtems-docs.
   ↳git
4 Setting out to                               : /opt/work/chris/rtems/docs/rtems-docs.
   ↳git/build
5 Checking for program 'git'                   : /usr/local/bin/git
6 Checking for program 'sphinx-build'         : /opt/work/chris/rtems/releasing/rng/
   ↳bin/sphinx-build
7 Checking for program 'aspell'                : /usr/local/bin/aspell
8 Checking if Sphinx is at least 1.3          : yes (5.3)
9 Checking Sphinx Options                     : none
10 Checking Sphinx Nit-Pick mode               : no
11 Checking for 'sphinx.ext.autodoc'           : found
12 Checking for 'sphinx.ext.coverage'          : found
13 Checking for 'sphinx.ext.doctest'           : found
14 Checking for 'sphinx.ext.graphviz'          : found
15 Checking for 'sphinx.ext.intersphinx'       : found
16 Checking for 'sphinx.ext.mathjax'           : found
17 Checking for 'sphinxcontrib.bibtex'         : not found (see README.txt)
18 The configuration failed
19 (complete log in /opt/work/chris/rtems/docs/rtems-docs.git/build/config.log)

```

Author: Trac Migrate 2022-11-10T04:28:51.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”07f151f4579458de8b6255cd88509e9a5d86ade1/rtems-docs”
07f151f/rtems-docs]:

```
1 waf: Backport from main build fixes
2
3 Closes #4752
```

Author: Chris Johns 2025-09-19T01:11:14.001Z

changed the description

3.1.1.15 4754 - Set RSB GDB source path to https

Id	4754
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-11-10T20:43:01.000Z
Updated	2025-09-19T01:25:55.745Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4754
Merges	0

Backport <https://git.rtems.org/rtems-source-builder/commit/?id=949cf500b4f4ab560a77c2ac60cd9ac0f47aa852>

Author: Trac Migrate 2022-11-14T20:58:22.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”2eda12e1da530b921ecc864288f4054d3cb5a3dc/rtems-source-builder” 2eda12e/rtems-source-builder]:

```
1 gdb: Use https for downloads
2
3 Close #4754
```

Author: Chris Johns 2025-09-19T01:11:14.178Z

changed the description

3.1.1.16 4755 - Docs build system does not build singlehtml

Id	4755
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-11-10T22:04:50.000Z
Updated	2025-09-19T01:25:41.293Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4755
Merges	0

The configure logic does not handle the inliner detection correctly.

Author: Trac Migrate 2022-11-10T22:14:54.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"031cb12fe11d06d71a6393cc007aa0e3348e982b/rtems-docs" 031cb12/rtems-docs]:

```
1 waf: Handle the enable options for singlehtml and ditaa/puml
2
3 Close #4755
```

Author: Chris Johns 2025-09-19T01:11:14.338Z

changed the description

3.1.1.17 4757 - RSB freetype 2.4.10 source not hosted any longer

Id	4757
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2022-11-11T02:34:00.000Z
Updated	2025-09-19T01:25:23.450Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4757
Merges	0

The source is not present any longer. I think the simplest solution maybe using the source in the 5.1 release and pointing the RSB 5 freetype URL to that file.

Any updates would be a change in the code and functionality.

Author: Chris Johns 2022-11-15T10:31:23.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Author: Chris Johns 2025-09-19T01:11:14.489Z

changed the description

3.1.1.18 4758 - Net-Snmp referenced patch missing

Id	4758
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-11-13T20:59:29.000Z
Updated	2025-09-19T01:25:08.578Z
Milestone	5.2
Labels	libbsd, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4758
Merges	0

The Net-SNMP configuration references a patch that is missing. I cannot find it.

Update to 5.9.3 and for the libbsd stack.

- [rtems-net-snmp-5.9.3-20221113.patch](#)

Author: Chris Johns 2022-11-13T22:49:57.000Z

- **Attachment** [rtems-net-snmp-5.9.3-20221113.patch](#) added

NetSNMP RTEMS 5.9.3 patch

Author: Trac Migrate 2022-11-14T20:58:25.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"c7e85e3319db59bc81c2b14fcc4f6c78b9a40b77/rtems-source-builder" c7e85e3/rtems-source-builder]:

```

1 rtems/net-snmp: Update to 5.9.3 with the RTEMS patch
2
3 The 5.7.2.1 patch referenced in the configuration cannot be located
4 so update the version to the latest. Checked with Zynq A9 qemu
5 and libbsd.
6
7 Closes #4758

```

Author: Chris Johns 2025-09-19T01:11:14.662Z

changed the description

3.1.1.19 4761 - RSB fatal error on missing hash checksums (cloned)

Id	4761
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2022-11-15T02:25:36.000Z
Updated	2025-09-19T01:24:20.210Z
Milestone	5.2
Labels	priority::high, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4761
Merges	0

Cloned from #4760:

The time has come to raise a fatal error if a hash is missing rather than a warning. This will stop missing checksums being present when releasing.

It also makes it simpler to test releases for no missing checksums.

Author: Chris Johns 2022-11-15T10:33:25.000Z

- **Milestone** changed from %"5.3" to %"5.2"

Author: Trac Migrate 2022-11-15T21:42:34.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"0a7ecef07e865464a9d98d8a6df36f4aac22e1ec/rtems-source-builder" 0a7ecef/rtems-source-builder]:

```

1 sb/downloads: Raise errors on no hash present
2
3 Close #4761

```

Author: Chris Johns 2025-09-19T01:11:14.836Z

changed the description

3.1.1.20 4185 - arm/bsps: Small MMU pages are rounded to 1 MiB (cloned)

Id	4185
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-11-24T08:34:18.000Z
Updated	2025-09-19T01:10:59.267Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4185
Merges	1

Original author: soja

Cloned from [#4184](#):

The function `arm_cp15_start_set_translation_table_entries` rounds the end address of a section up to 1 MiB even if small 4kiB pages are used (i.e. `ARM_MMU_USE_SMALL_PAGES` enabled).

Will submit a patch which only rounds the end address to 4kiB boundary.

Author: Trac Migrate 2020-12-02T12:39:29.000Z

Original author: soja

To keep track of it during the Christmas break: The patch is here:

<https://lists.rtems.org/pipermail/devel/2020-November/063461.html>

Author: Trac Migrate 2020-12-11T05:55:49.000Z

Original author: soja

- **Owner** set to Jan Sommer <jan.sommer@dlr.de>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"21ed8d11c58c6a8f5bb8a5e03b8df50163a612f1/rtems" 21ed8d11/rtems]:

```
1 bsps/arm: Fix MMU small pages support
2
3 - For small tables only round to the next 4kiB instead of 1MiB
4
5 Close #4185.
```

Author: Trac Migrate 2020-12-15T10:27:33.000Z

Original author: soja

In [changeset:"2a8f7551074dea0082353e300aacb8581adae5d6/rtems" 2a8f755/rtems]:

```
1 bsps/arm: Fix MMU configuration
2
3 Update #4185.
```

Author: Chris Johns 2025-09-19T01:10:59.231Z

mentioned in issue [#4394](#)

3.1.1.21 4096 - shell: CTRL-U sets the cursor to the wrong position

Id	4096
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-09-28T12:12:11.000Z
Updated	2025-06-10T15:03:10.273Z
Milestone	5.2
Labels	cpukit::shell, priority::normal, resolution::fixed, rtems::shell, ticket-type::defect
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4096
Merges	1

Original author: frank_k

This patch fixes a tiny bug in the command line editing of the RTEMS shell. Typing CTRL-U in the shell should remove all characters left of the cursor. After pressing CTRL-U, the current implementation does wrongly place the cursor at the end of the line instead at its beginning.

To reproduce the bug, start the shell and type 'abc123' (no <RETURN>):

```
{{{ ~/src/rtems $ qemu-system-arm -net none -nographic -M realview-pbx-a9 -m 256M
-kernel build/arm/realview_pbx_a9_qemu/testsuites/libtests/dl10.exe * BEGIN OF TEST
libdl (RTL) 10 * * TEST VERSION: 6.0.0.d9bdf166644f612dd628fe4951c12c6f8e94ba5f
```

```
* TEST STATE: USER_INPUT * TEST BUILD: RTEMS_DEBUG RTEMS_NETWORKING
RTEMS_POSIX_API RTEMS_SMP * TEST TOOLS: 10.2.1 20200904 (RTEMS 6, RSB
31f936a7b74d60bda609a9960c6e1a705ba54974, Newlib a0d7982) RTL (libdl) commands: dl,
rtl
```

RTEMS Shell on /dev/foobar. Use 'help' to list commands. SHLL [/] # abc123 }}

Then move the cursor onto the '1' by hitting three times the <ARROW-LEFT> key. Next type <CTRL>-U:

```
{{{ SHLL [/] # 123 }}}}
```

Note that the cursor is at the end of the line (after '3') instead of correctly at the beginning (on the '1'), now.

Continuing typing 'echo ' incorrectly results in the output:

```
{{{ SHLL [/] # 123echo 123 }}}}
```

The patch changes this behavior so that the cursor in the second last step will be on the '1' and typing 'echo ' will then correctly reflected as:

```
{{{ SHLL [/] # echo 123 }}}}
```

Author: Trac Migrate 2020-09-28T12:21:17.000Z

Original author: frank_k

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"18549295beb0c6d3f1dc2027acfc1f043431cf12/rtems" 18549295/rtems]:

```
1 Fixing bug in line editing of the shell with CTRL-U.
2
3 This patch fixes a tiny bug in the command line editing of the RTEMS_
4 ↪ shell.
5 Typing CTRL-U in the shell should remove all characters left of the_
6 ↪ cursor.
7 After pressing CTRL-U, the current implementation does wrongly place_
8 ↪ the cursor
9 at the end of the line instead at its beginning.
10
11 To reproduce the bug, start the shell and type 'abc123' (no <RETURN>):
12
13 ~/src/rtems $ qemu-system-arm -net none -nographic -M realview-pbx-a9_
14 ↪ \
15 -m 256M -kernel build/arm/realview_pbx_a9_qemu/testsuites/libtests/
16 ↪ dl10.exe
```

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```

16  *** BEGIN OF TEST libdl (RTL) 10 ***
17  *** TEST VERSION: 6.0.0.d9bdf166644f612dd628fe4951c12c6f8e94ba5f
18  *** TEST STATE: USER_INPUT
19  *** TEST BUILD: RTEMS_DEBUG RTEMS_NETWORKING RTEMS_POSIX_API RTEMS_
    ↪ SMP
20  *** TEST TOOLS: 10.2.1 20200904 \
21  (RTEMS 6, RSB 31f936a7b74d60bda609a9960c6e1a705ba54974, Newlib_
    ↪ a0d7982)
22
23
24  RTL (libdl) commands: dl, rtl
25  RTEMS Shell on /dev/foobar. Use 'help' to list commands.
26  SHLL [/] # abc123
27
28  Then move the cursor onto the '1' by hitting three times the
    ↪ <ARROW-LEFT> key.
29  Next type <CTRL>-U:
30
31
32
33  SHLL [/] # 123
34
35  Note that the cursor is at the end of the line (after '3')_
    ↪ instead of correctly
36  at the beginning (on the '1'), now.
37
38  Continuing typing 'echo ' incorrectly results in the output:
39
40
41
42  SHLL [/] # 123echo 123
43
44  The patch changes this behavior so that the cursor in the_
    ↪ second last step will
45  be on the '1' and typing 'echo ' will then correctly_
    ↪ reflected as:
46
47
48
49  SHLL [/] # echo 123
50
51  Close #4096.

```

Author: Gedare Bloom 2025-06-10T15:03:10.658Z

changed the description

Author: Gedare Bloom 2025-06-10T15:03:15.374Z

mentioned in issue [#4097](#)

3.1.1.22 4232 - Timeout for automatic barriers is broken (cloned)

Id	4232
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-02-06T20:03:57.000Z
Updated	2024-05-01T19:18:11.468Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4232
Merges	1

Original author: sebastian.huber

Cloned from [#4230](#):

A barrier wait timeout at an automatic barrier doesn't decrement the count of waiting threads.

Author: Trac Migrate 2021-02-06T20:35:05.000Z

Original author: sebastian.huber

In [changeset:"5861e4256774bc2d629c703ac3d0a3692500ca0e/rtems"5861e42/rtems]:

1 score: Constify Thread_queue_First_operation

2

3 Update [#4232](#).

Author: Trac Migrate 2021-02-06T20:35:09.000Z

Original author: sebastian.huber

In [changeset:"cc2a2371290b1a093b17e8a58913f78835cf5b9d/rtems"cc2a237/rtems]:

1 score: Make FIFO thread queue ops public

2

3 Update [#4232](#).

Author: Trac Migrate 2021-02-06T20:35:12.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”ef1ac8afff4b3b3700fdebdeb4a2ae04211b5686/rtems”
ef1ac8af/rtems]:

```
1 score: Add barrier thread queue operations
2
3 This fixes a missing decrement of the number of waiting threads during a
4 barrier wait timeout.
5
6 Close #4232.
```

Author: Ning Yang 2024-05-01T19:18:11.368Z

mentioned in merge request !9

3.1.1.23 4567 - Atomic store does not use the order parameter for C++ (cloned)

Id	4567
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-12-07T11:07:44.000Z
Updated	2024-04-25T20:49:27.615Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, rtems::score, smp, tickettype::defect, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4567
Merges	1

Original author: sebastian.huber

Cloned from #4566:

This could result in invalid inline code for the SMP ticket locks if used from C++.

Author: Trac Migrate 2021-12-07T11:25:53.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”18bbfc729ef81a1895c481da37e8700767e1144a/rtems”
18bbfc7/rtems]:

```
1 score: Fix atomic stores for C++
2
3 Close #4567.
```

Author: Amar Takhar 2024-04-25T20:49:27.664Z

changed the description

3.1.1.24 4347 - Allow RTEMS_PRIORITY for MrsP semaphores

Id	4347
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-16T13:27:05.000Z
Updated	2024-04-25T20:48:44.584Z
Milestone	5.2
Labels	priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4347
Merges	1

Original author: sebastian.huber

In order to improve the compatibility of RTEMS 5.2 with future version of RTEMS which fixed #4346 allow MrsP semaphores to be created with RTEMS_PRIORITY.

Author: Trac Migrate 2021-03-17T09:47:01.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"0965b7c8b7956846167f43b813d68f8b5f2a60a1/rtems"0965b7c8/rtems]:

```
1 rtems: Require RTEMS_PRIORITY for MrsP semaphores
2
3 MrsP semaphores are a generalization of the priority ceiling semaphores
4 for SMP configurations. Priority ceiling semaphores are required to use
5 the priority task wait queue discipline. Require this discipline also
6 for MrsP semaphores.
7
8 Close #4347.
```

Author: Trac Migrate 2021-03-17T09:48:57.000Z

Original author: sebastian.huber

In [changeset:"3a66586c9e8432eee26b0e74c49c91362e22d24d/rtems" 3a66586/rtems]:

```

1 rtems: Allow RTEMS_PRIORITY for MrsP semaphores
2
3 In order to improve the compatibility of RTEMS 5.2 with future version
4 of RTEMS which fixed #4346 allow MrsP semaphores to be created with
5 RTEMS_PRIORITY.
6
7 Close #4347.
```

Author: Trac Migrate 2021-03-17T13:05:34.000Z

Original author: sebastian.huber

In [changeset:"7c43a4b4023587ab386d94c57b5c1f8a4afc604e/rtems-docs" 7c43a4b/rtems-docs]:

```

1 c-user: Update MrsP semaphore documentation
2
3 Update #4347.
```

Author: Amar Takhar 2024-04-25T20:48:44.631Z

changed the description

3.1.1.25 4154 - Improve the workaround for the LEON3FT store-store errata: TN-0009

Id	4154
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-10-16T05:45:40.000Z
Updated	2024-04-25T20:48:23.148Z
Milestone	5.2
Labels	arch:sparc, priority::normal, qualification, resolution::fixed, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4154
Merges	0

Original author: sebastian.huber

See also:

<https://www.gaisler.com/doc/antn/GRLIB-TN-0009.pdf>

Some areas were already fixed by #3057.

Author: Trac Migrate 2021-03-07T15:56:20.000Z

Original author: sebastian.huber

In [changeset:"980cdb82a70c948b8531d99c3d1868725f503aa0/rtems" 980cdb8/rtems]:

```
1 sparc: Remove sequences that the B2BST scan script warns about
2
3 Update #4154.
```

Author: Trac Migrate 2021-03-07T15:57:36.000Z

Original author: sebastian.huber

In [changeset:"3074eb0f37d4ac3ebcd19f9ea1b6566c1280bfa6/rtems" 3074eb0/rtems]:

```
1 sparc,leon: avoid triggering TN-0009 bad sequence
2
3 Update #4154.
```

Author: Trac Migrate 2021-03-07T15:57:40.000Z

Original author: sebastian.huber

In [changeset:"2497a46a76161ef78340a7e3f54dcea44a74dd6a/rtems" 2497a46a/rtems]:

```
1 sparc,leon: avoid triggering LEON3FT errata TN-0009
2
3 Update #4154.
```

Author: Trac Migrate 2021-03-11T15:17:11.000Z

Original author: sebastian.huber

- **Milestone** changed from %"6.1" to %"5.2"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Author: Trac Migrate 2021-03-11T17:01:09.000Z

Original author: sebastian.huber

- **Summary** changed from *Add a workaround for the LEON3FT store-store errata: TN-0009* to *Improve the workaround for the LEON3FT store-store errata: TN-0009*

Author: Amar Takhar 2024-04-25T20:48:23.200Z

changed the description

3.1.1.26 4060 - The reworked <rtems/confdefs.h> has a cyclic dependency with RTEMS_MULTIPROCESSING enabled

Id	4060
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-08-21T06:47:02.000Z
Updated	2024-04-25T20:48:18.601Z
Milestone	5.2
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4060
Merges	1

Original author: sebastian.huber

The changes for #3875 introduced a cyclic dependency between <rtems/confdefs/mpci.h> and <rtems/confdefs/threads.h>.

Author: Trac Migrate 2020-08-21T18:03:24.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”7661402bc2a35c267f532788bd882f5fe393d297/rtems”7661402/rtems]:

```
1 confdefs: Fix cyclic dependency
2
3 Close #4060.
```

Author: Amar Takhar 2024-04-25T20:48:18.650Z

changed the description

3.1.1.27 3540 - How To Use SPARC memscrub

Id	3540
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-10-05T16:32:08.000Z
Updated	2024-04-25T20:46:31.740Z
Milestone	5.2
Labels	priority::normal, qualification, resolution::wontfix, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3540
Merges	0

The SPARC memory scrubber code on the RTEMS master is undocumented from a using standpoint. Google shows the RCC has documentation (chapter 49) using it. Can this information be made available in the RTEMS Ecosystem somehow?

Author: Joel Sherrill 2018-10-05T16:32:26.000Z

- **Owner** set to daniel
- **Status** changed from *new* to *assigned*

Author: Joel Sherrill 2018-10-13T22:54:56.000Z

- **Milestone** changed from %”5.1” to %”5.2”

Author: Chris Johns 2022-11-09T23:06:34.000Z

- **Resolution** set to ~”wontfix”
- **Status** changed from *assigned* to *closed*

Please reopen if this is going to be worked on.

Author: Amar Takhar 2024-04-25T20:46:31.774Z

changed the description

3.1.1.28 4274 - GR1553RT driver: fixes to memory allocation and locking on descriptor updates

Id	4274
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-02-26T15:23:59.000Z
Updated	2022-12-14T23:27:11.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4274
Merges	0

Original author: daniel

Issues in GRLIB GR1553B RT mode device driver (used by GR740 BSP): gr1553rt_list_init() - fixed memory leak when dynamic allocation failed gr1553rt_bd_update() - release interrupt/spin-lock correctly

Author: Trac Migrate 2021-03-07T15:56:23.000Z

Original author: daniel

In [changeset:"a97a4732f7c2c3ea34b7de1ddbcf383ed6a6c5d1/rtems" a97a473/rtems]:

```
1 leon,gr1553rt: Fixed memory leak
2
3 Update #4274.
```

Author: Trac Migrate 2021-03-07T15:56:26.000Z

Original author: daniel

In [changeset:"1223f5e402ea38c2083b03982ce947b67d4c0538/rtems" 1223f5e/rtems]:

```
1 leon,gr1553rt: Fixed spinlock unlock
2
3 Update #4274.
```

Author: Trac Migrate 2021-03-09T13:20:48.000Z

Original author: daniel

- **Milestone** changed from %"6.1" to %"5.2"
- **Resolution** set to ~"fixed"

- **Status** changed from *assigned* to *closed*

3.1.1.29 4275 - GR1553B: use new codec available in GR740 revision 1

Id	4275
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-02-26T15:46:50.000Z
Updated	2022-12-14T23:26:11.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4275
Merges	0

Original author: daniel

Select the new 1553 codec available specifically in GR740.

Author: Trac Migrate 2021-03-07T15:56:30.000Z

Original author: daniel

In [changeset:"14fcf388914d9c4abc0f1a67f030762c8f78d830/rtems" 14fcf388/rtems]:

```

1 leon,gr1553b: set codec version
2
3 This is enables the updated codec for GR740 and is backwards compatible
4 with all other versions of the IP.
5
6 Updates #4275.
```

Author: Trac Migrate 2021-03-09T13:21:45.000Z

Original author: daniel

- **Milestone** changed from %"6.1" to %"5.2"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

3.1.1.30 4359 - Priority discipline is broken for semaphores and message queues in SMP configurations (cloned)

Id	4359
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-25T08:09:28.000Z
Updated	2022-11-09T23:25:23.000Z
Milestone	5.2
Labels	priority::normal, resolution::wontfix, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4359
Merges	0

Original author: sebastian.huber

Cloned from [#4358](#):

The priority queues in clustered scheduling configurations use a per scheduler priority queue rotation to ensure FIFO fairness across schedulers. This mechanism is implemented in the thread queue surrender operation. Unfortunately some semaphore and message queue directives use wrongly the thread queue extract operation.

Author: Chris Johns 2022-11-09T23:25:23.000Z

Original author: sebastian.huber

- **Resolution** set to ~"wontfix"
- **Status** changed from *assigned* to *closed*

Please use RTEMS 6 for SMP. Please reopen if this is to be fixed on the RTEMS 5 branch.

3.1.1.31 4357 - rtems_semaphore_set_priority() uses an invalid SMP lock (cloned)

Id	4357
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-23T17:14:20.000Z
Updated	2022-11-09T23:24:24.000Z
Milestone	5.2
Labels	priority::normal, resolution::wontfix, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4357
Merges	0

Original author: sebastian.huber

Cloned from [#4356](#):

If the priority of a locked priority ceiling mutex is set, the used SMP lock sequence is invalid.

Author: Chris Johns 2022-11-09T23:24:24.000Z

Original author: sebastian.huber

- **Resolution** set to ~"wontfix"
- **Status** changed from *assigned* to *closed*

Please use RTEMS 6 for SMP

3.1.1.32 4119 - rtems-bsp-tester: Off By One for Completed Jobs

Id	4119
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2020-10-02T17:36:58.000Z
Updated	2022-11-09T23:17:29.000Z
Milestone	5.2
Labels	priority::normal, resolution::wontfix, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4119
Merges	0

Looking at <https://lists.rtems.org/pipermail/build/2020-September/019154.html>, you can see that the completed number of jobs doesn't match up with the number for the last build:

```

1 Total Time           : 2:05:13.725904 for 1696 completed job(s)
2 Average BSP Build Time: 0:00:04.430262
3
4 .....
5
6 1695 profiling v850/v850sim build:
7 configure: /home/joel/rtems-cron-6/rtems/configure\
8 --target=v850-rtems6 --enable-rtemsbps=v850sim --prefix=/home/joel\
9 /rtems-cron-6/tools/6/bsps --enable-profiling --disable-smp

```

I think there are 1695 jobs completed not 1696. :)

Author: Chris Johns 2022-11-09T23:17:29.000Z

- **Resolution** set to ~"wontfix"
- **Status** changed from *assigned* to *closed*

Please reopen if this is still valid and important for the 5 branch.

3.1.1.33 4102 - rtems-pairs includes invalid BSP

Id	4102
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2020-09-29T22:00:07.000Z
Updated	2022-11-09T23:16:11.000Z
Milestone	5.2
Labels	priority::normal, resolution::wontfix, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4102
Merges	0

On both 5 and master, the list of BSP pairs includes bbxm which appears to come from the file `bsps/arm/beagle/simscripts/bbxm.cfg` which is obviously not a build configuration file.

```

1 arm: (families:21 bsps:57)
2 altcycv_devkit          altera-cyclone-v
3 atsamv                  atsam
4 bbxm                    beagle
5 beagleboardorig        beagle
6 beagleboardxm          beagle
7 beagleboneblack        beagle
8 beaglebonewhite        beagle

```

Author: Joel Sherrill 2020-09-29T22:00:18.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Chris Johns 2022-11-09T23:16:11.000Z

- **Resolution** set to ~"wontfix"
- **Status** changed from *assigned* to *closed*

3.1.1.34 4064 - RSB needs to support waf with no python command

Id	4064
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-08-28T00:25:08.000Z
Updated	2022-11-09T23:14:51.000Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4064
Merges	0

Recent Linux distros may not provide a python command by default. This breaks building any waf based tools such as the rtems-tools and rtems-libbsd.

Provide support for waf builds by check for a suitable Python executable and using it to directly invoke waf. For example:

```
1 /usr/local/bin/python3.7 ./waf configure --prefix=/blah/blah
```

Author: Chris Johns 2022-11-09T23:14:51.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

RTEMS 5 has a hack'ish detect that has been removed in RTEMS 6.

3.1.1.35 3601 - Block device disk management implementation can underflow rtems_disk_device.uses

Id	3601
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-12T01:35:03.000Z
Updated	2022-11-09T23:08:11.000Z
Milestone	5.2
Labels	priority::normal, resolution::wontfix, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3601
Merges	0

Original author: Kevin Gordon

The source file discdevs.c contains logic error with regard to a rtems_disk_device.uses member, in that the .uses value can underflow and wrap-around because this member is unsigned and the implementation does not check for a current value of 0.

Case in point, see `diskdevs.c` line 373:

```
physical_disk->uses -= deleted_count;
```

If `deleted_count` is greater than `physical_disk->uses`, e.g. `physical_disk->uses` is 0 and `deleted_count` is 1, `physical_disk->uses` will underflow. There are other references to the `uses` member that can result in errors, e.g., line 448:

```
uses = -dd->uses;
```

We discovered this bug via a unit-test that creates multiple RAM disks and then attempts to delete them, without any `uses`, resulting in RTEMS errors because the `uses` member had wrapped around. To circumvent this bug, we had to force the `uses` member to a value of 1 prior to calling `rtems_disk_release()`, which then successfully deleted the RAM disks via `rtems_disk_delete()`, otherwise the results cascaded into error situations that were undesirable.

Author: Trac Migrate 2018-11-12T06:21:35.000Z

Original author: Kevin Gordon

This API is deprecated in RTEMS 5.1 and will be removed in RTEMS 6.1.

Author: Trac Migrate 2019-01-29T08:06:16.000Z

Original author: Kevin Gordon

- **Milestone** changed from %”5.1” to %”5.2”

If you want to get this fixed, then please send a patch to devel@rtems.org. I would avoid this API and use `rtems_blkdev_create()` and `rtems_blkdev_create_partition()` instead.

Author: Trac Migrate 2020-07-13T15:22:47.000Z

Original author: Kevin Gordon

- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Chris Johns 2022-11-09T23:07:23.000Z

Original author: Kevin Gordon

- **Milestone** changed from %”5.2” to %”Indefinite”

Author: Chris Johns 2022-11-09T23:08:11.000Z

Original author: Kevin Gordon

- **Milestone** changed from %”Indefinite” to %”5.2”
- **Resolution** set to ~”wontfix”

- **Status** changed from *assigned* to *closed*

Sebastian has recommended avoiding this API.

3.1.1.36 4106 - RSB Missing BSP bset for xilinx_zynq_a9_qemu

Id	4106
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2020-09-30T15:52:28.000Z
Updated	2022-11-09T22:32:24.000Z
Milestone	5.2
Labels	priority::normal, resolution::wontfix, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4106
Merges	0

This needs to be added to the RSB for 5 and master.

Author: Chris Johns 2022-11-09T22:32:24.000Z

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

Please reopen when the bset is added.

3.1.1.37 4071 - RSB does not pass BSP options correctly.

Id	4071
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-09-06T22:19:37.000Z
Updated	2022-11-09T22:31:38.000Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4071
Merges	0

Original author: kgardas

Using 5.1 RTEMS release and RSB to build the beast I've found out it's not able to pass BSP options correctly using `--with-rtems-bspopts` option:

```
1 ../source-builder/sb-set-builder
2 --prefix=$HOME/sfw/rtems/5.1-smp2-vga80x50-key-to-reset 5/bsps/pc
```

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```

3 --with-rtems-tests --with-rtems-smp
4 --with-rtems-bspopts="BSP_VIDEO_80x50=1 BSP_PRESS_KEY_FOR_RESET=1"

```

command fails with:

```

1 Build Set: Time 0:00:28.975685
2 Build Set: Time 0:03:36.556012
3 installing: 5/bsps/pc ->
4 /export/home/karel/sfw/rtems/5.1-smp2-vga80x50-key-to-reset
5 clean staging: 5/bsps/pc
6 Staging Size: 4.271GB
7 Build Set: Time 0:24:53.756984
8 Build Set: BSP_PRESS_KEY_FOR_RESET=1
9 error: no build set file found: BSP_PRESS_KEY_FOR_RESET=1.bset
10 Build Set: Time 0:00:00.000420
11 Build FAILED

```

It looks like even if I use just one BSP options, it's still not passed to the BSP, but build is built fine at least.

Author: Chris Johns 2022-11-09T22:31:38.000Z

Original author: kgardas

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

The RTEMS 5 RSB has been updated to support deployment and I think this will now be fixed. Please refer to the [RTEMS Deployment](#) repo for example configurations known to work.

3.1.1.38 4059 - RSB: UnicodeDecodeError

Id	4059
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-08-21T06:12:00.000Z
Updated	2022-11-09T22:21:25.000Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4059
Merges	0

Original author: sebastian.huber

The RSB some times cannot create a report due to an Unicode decode error:

```

1 error: building powerpc-rtems5-gdb-9.1-x86_64-linux-gnu-1
2 Build FAILED
3 error: failure to create error report
4 Build Set: Time 0:01:29.712543
5 Traceback (most recent call last):
6 File "../source-builder/sb/cmd-set-builder.py", line 26, in <module>
7   setbuilder.run()
8 File "/scratch/git-rtems-release/5.1-rc2/rtems-source-builder-5.1-rc2/source-
   ↳builder/sb/setbuilder.py", line 736, in run
9   b.build(deps, mail = mail)
10 File "/scratch/git-rtems-release/5.1-rc2/rtems-source-builder-5.1-rc2/source-
   ↳builder/sb/setbuilder.py", line 473, in build
11   self.build_package(configs[s], b)
12 File "/scratch/git-rtems-release/5.1-rc2/rtems-source-builder-5.1-rc2/source-
   ↳builder/sb/setbuilder.py", line 258, in build_package
13   _build.make()
14 File "/scratch/git-rtems-release/5.1-rc2/rtems-source-builder-5.1-rc2/source-
   ↳builder/sb/build.py", line 603, in make
15   self._generate_report_('Build: %s' % (gerr))
16 File "/scratch/git-rtems-release/5.1-rc2/rtems-source-builder-5.1-rc2/source-
   ↳builder/sb/build.py", line 126, in _generate_report_
17   self.opts, header, footer)
18 File "/scratch/git-rtems-release/5.1-rc2/rtems-source-builder-5.1-rc2/source-
   ↳builder/sb/ereport.py", line 56, in generate
19   l.write(os.linesep.join(r))
20 UnicodeDecodeError: 'ascii' codec can't decode byte 0xe2 in position 50: ordinal_
   ↳not in range(128)
21 RSB Error Report:

```

Author: Trac Migrate 2021-09-17T06:25:25.000Z

Original author: sebastian.huber

This error also happens when the RSB tool is trying to build RTEMS for others architectures and packages (found on release 5.1): building: rtems-tools-29ad0ec7a8ec8aae5afeb32ef8be03707f626843-1 error: building rtems-tools-29ad0ec7a8ec8aae5afeb32ef8be03707f626843-1 Build FAILED error: failure to create error report Build Set: Time 3:07:57.408978 Traceback (most recent call last): File "../source-builder/sb/cmd-set-builder.py", line 26, in <module> setbuilder.run() File "\$Dev/RTEMS/rtems-bbb/tools/rtems-source-builder/source-builder/sb/setbuilder.py", line 736, in run b.build(deps, mail = mail) File "\$Dev/RTEMS/rtems-bbb/tools/rtems-source-builder/source-builder/sb/setbuilder.py", line 473, in build self.build_package(configs[s], b) File "\$Dev/RTEMS/rtems-bbb/tools/rtems-source-builder/source-builder/sb/setbuilder.py", line 258, in build_package _build.make() File "\$Dev/RTEMS/rtems-bbb/tools/rtems-source-builder/source-builder/sb/build.py", line 603, in make self._generate_report_('Build: %s' % (gerr)) File "\$Dev/RTEMS/rtems-bbb/tools/rtems-source-builder/source-builder/sb/build.py", line 126, in _generate_report_ self.opts, header, footer) File "\$Dev/RTEMS/rtems-bbb/tools/rtems-source-builder/source-builder/sb/ereport.py", line 56, in generate

l.write(os.linesep.join(r)) UnicodeDecodeError: 'ascii' codec can't decode byte 0xe2 in position 70: ordinal not in range(128)

Author: Trac Migrate 2021-12-22T11:37:04.000Z

Original author: sebastian.huber

This error occurs when the python locale environment is not set correctly. I got this for an compile error message when rtems-source-builder failing to building expat on MacOS.

ensuring LANG and LC_ALL are set fixed the problem writing the error log

export LANG='en_US.UTF-8' LC_ALL='en_US.UTF-8'

LANG is generally set correctly on macos.

if one is setting one of the LC_* variables to a different locale (I use LC_TIME="de_DE.UTF-8")

then python assumes the encoding is ascii only.

setting LC_ALL overrides this and python happily uses utf-8 again.

Author: Chris Johns 2022-11-09T22:21:25.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Fixed here <https://git.rtems.org/rtems-source-builder/commit/?h=5&id=ddfcc320ab740cd6ac30d70aaff7987dda25ee7f>

3.1.1.39 4011 - Test compilation error in riscv bsps

Id	4011
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-06-22T07:06:41.000Z
Updated	2022-11-09T22:17:48.000Z
Milestone	5.2
Labels	priority::normal, resolution::wontfix, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4011
Merges	0

Original author: soja

Configuring the riscv bsps with `--enable-tests` fails to build at least the dl06 test.

`../rtems-5.0.0-m2006-2/configure --target=riscv-rtems5 --prefix=../install/bsps --disable-networking --enable-tests --enable-rtemsbsp=griscv`

Error during the compilation step:

```
rtems-ld -r /localdata2/somm_ja/rtems/5-0-rc/build-riscv/riscv-rtems5/c/griscv -C riscv-
rtems5-gcc -c "-march=rv32imafd -mabi=ilp32d" -O rap -b dl06.pre -e rtems_main -s -o
dl06.rap dl06-o1.o dl06-o2.o -lm error: rap::object: Section index '0' not found: dl06-
o1.o Makefile:8479: recipe for target 'dl06.rap' failed make[5]: * [dl06.rap] Error 10
make[5]: Leaving directory '/localdata2/somm_ja/rtems/5-0-rc/build-riscv/riscv-
rtems5/c/griscv/testsuites/libtests' Makefile:663: recipe for target 'libtests' failed
make[4]: * [libtests] Error 2 make[4]: Leaving directory '/localdata2/somm_ja/rtems/5-
0-rc/build-riscv/riscv-rtems5/c/griscv/testsuites' Makefile:1222: recipe for target
'testsuites' failed make[3]: * [testsuites] Error 2 make[3]: Leaving directory
'/localdata2/somm_ja/rtems/5-0-rc/build-riscv/riscv-rtems5/c/griscv' Makefile:716:
recipe for target 'all-recursive' failed make[2]: * [all-recursive] Error 1 make[2]: Leaving
directory '/localdata2/somm_ja/rtems/5-0-rc/build-riscv/riscv-rtems5/c/griscv' Makefile:289:
recipe for target 'all-recursive' failed make[1]: * [all-recursive] Error 1 make[1]: Leaving
directory '/localdata2/somm_ja/rtems/5-0-rc/build-riscv/riscv-rtems5/c' Makefile:410:
recipe for target 'all-recursive' failed make: * [all-recursive] Error 1 make all 112,71s user
27,01s system 102% cpu 2:16,13 total
```

Author: Chris Johns 2022-11-09T22:17:48.000Z

Original author: soja

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

Please use the RISCv support in RTEMS 6.

3.1.1.40 2746 - RTEMS gdb python script do not load.

Id	2746
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2016-06-24T23:49:05.000Z
Updated	2022-11-09T22:14:21.000Z
Milestone	5.2
Labels	priority::normal, resolution::wontfix, tickettype::defect, tool::gdb, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2746
Merges	0

Loading the scripts does not work ...

```
1 (gdb) python import rtems
2 Traceback (most recent call last):
3 File "<string>", line 1, in <module>
4 File "/opt/work/rtems/4.12/share/gdb/python/rtems/__init__.py", line 31, in
  ↳ <module>
```

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```

5 import rtems
6 File "/opt/work/rtems/4.12/share/gdb/python/rtems/rtems.py", line 38, in <module>
7 import threads
8 File "/opt/work/rtems/4.12/share/gdb/python/rtems/threads.py", line 39, in
  ↳ <module>
9 import rbtrees
10 ImportError: No module named rbtrees
11 Error while executing Python code.
12 (gdb)

```

Author: Chris Johns 2016-06-24T23:49:53.000Z

- **Description** changed

```

1 Loading the scripts does not work ...
2
3 + {{{
4 (gdb) python import rtems
5 Traceback (most recent call last):
6 File "<string>", line 1, in <module>
7 File "/opt/work/rtems/4.12/share/gdb/python/rtems/__init__.py", line 31,
  ↳ in <module>
8 import rtems
9 File "/opt/work/rtems/4.12/share/gdb/python/rtems/rtems.py", line 38,
  ↳ in <module>
10 import threads
11 File "/opt/work/rtems/4.12/share/gdb/python/rtems/threads.py", line 39,
  ↳ in <module>
12 import rbtrees
13 ImportError: No module named rbtrees
14 Error while executing Python code.
15 (gdb)
16 + }}}

```

Author: Chris Johns 2017-03-27T06:48:47.000Z

- **Milestone** changed from %"4.12.1" to %"4.12.0"

Move to the first 4.12 milestone.

Author: Joel Sherrill 2017-10-12T02:48:37.000Z

- **Milestone** changed from %"4.12.0" to %"4.12.1"

Author: Trac Migrate 2017-11-09T06:27:05.000Z

- **Milestone** changed from %"4.12.1" to %"5.2"

Milestone renamed

Author: Chris Johns 2022-11-09T22:14:21.000Z

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

The scripts are too hard to maintain on the 5 branch because a lot of detail in the score has changed. On 6 and later libdebugger provides a highlevel access to a number of pieces or data.

3.1.1.41 4058 - RSB 5/rtems-riscv fails to build on Windows

Id	4058
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2020-08-20T22:33:34.000Z
Updated	2022-09-08T03:36:29.000Z
Milestone	5.2
Labels	priority::high, resolution::wontfix, tickettype::defect, tool::gdb, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4058
Merges	0

To repeat run `rtems-release-test 5 1-rc2` on Windows.

```

1 C:/msys64/mingw64/bin/./lib/gcc/x86_64-w64-mingw32/9.2.0/./././././x86_64-w64-
  ↳ mingw32/bin/ld.exe: ada-tasks.o: in function `memcpy':
2 C:/msys64/mingw64/x86_64-w64-mingw32/include/string.h:202: undefined reference to
  ↳ `__memcpy_chk'
3 C:/msys64/mingw64/bin/./lib/gcc/x86_64-w64-mingw32/9.2.0/./././././x86_64-w64-
  ↳ mingw32/bin/ld.exe: breakpoint.o: in function `strcpy':
4 C:/msys64/mingw64/x86_64-w64-mingw32/include/string.h:228: undefined reference to
  ↳ `__strcpy_chk'
5 C:/msys64/mingw64/bin/./lib/gcc/x86_64-w64-mingw32/9.2.0/./././././x86_64-w64-
  ↳ mingw32/bin/ld.exe: C:/msys64/mingw64/x86_64-w64-mingw32/include/string.h:228:
  ↳ undefined reference to `__s
6 trcpy_chk'
7 C:/msys64/mingw64/bin/./lib/gcc/x86_64-w64-mingw32/9.2.0/./././././x86_64-w64-
  ↳ mingw32/bin/ld.exe: breakpoint.o: in function `memset':
8 C:/msys64/mingw64/x86_64-w64-mingw32/include/string.h:208: undefined reference to
  ↳ `__memset_chk'
9 C:/msys64/mingw64/bin/./lib/gcc/x86_64-w64-mingw32/9.2.0/./././././x86_64-w64-
  ↳ mingw32/bin/ld.exe: breakpoint.o: in function `sprintf(char*, char const*, ...)
  ↳ ':
10 C:/msys64/mingw64/x86_64-w64-mingw32/include/stdio.h:366: undefined reference to
  ↳ `__chk_fail'

```

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```

11 C:/msys64/mingw64/bin/./lib/gcc/x86_64-w64-mingw32/9.2.0/./././././x86_64-w64-
    ↪ mingw32/bin/ld.exe: cli/cli-decode.o: in function `strcat':
12 C:/msys64/mingw64/x86_64-w64-mingw32/include/string.h:234: undefined reference to
    ↪ `__strcat_chk'
13 C:/msys64/mingw64/bin/./lib/gcc/x86_64-w64-mingw32/9.2.0/./././././x86_64-w64-
    ↪ mingw32/bin/ld.exe: C:/msys64/mingw64/x86_64-w64-mingw32/include/string.h:234:
    ↪ undefined reference to `__m
14 emcpy_chk'
15 C:/msys64/mingw64/bin/./lib/gcc/x86_64-w64-mingw32/9.2.0/./././././x86_64-w64-
    ↪ mingw32/bin/ld.exe: C:/msys64/mingw64/x86_64-w64-mingw32/include/string.h:234:
    ↪ undefined reference to `__m
16 emcpy_chk'

```

I think this has been resolved in a later GDB version.

Author: Chris Johns 2022-09-08T03:36:29.000Z

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

Please use RTEMS 6. The RISC-V is in the tier-4 list for this release.

3.1.1.42 4024 - NFS Client is broken on 64-bit targets

Id	4024
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-07-08T11:33:11.000Z
Updated	2022-08-17T06:09:40.000Z
Milestone	5.2
Labels	libbsd, priority::normal, resolution::wontfix, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4024
Merges	0

Original author: sebastian.huber

Packed and unpacked structures are mixed leading to invalid XDR encode/decode operations if addresses > 4GiB are used.

Author: Chris Johns 2020-08-10T05:44:39.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.1" to %"5.2"

Author: Chris Johns 2022-08-17T06:09:40.000Z

Original author: sebastian.huber

- **Resolution** set to ~"wontfix"
- **Status** changed from *assigned* to *closed*

Use master or RTEMS 6.

3.1.1.43 4655 - sync() whould synchronize all file descriptors

Id	4655
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-05-13T10:58:34.000Z
Updated	2022-05-17T13:24:35.000Z
Milestone	5.2
Labels	filesystem, priority::normal, resolution::fixed, tickettype::defect, version::4.5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4655
Merges	1

Original author: sebastian.huber

According to POSIX

<https://pubs.opengroup.org/onlinepubs/9699919799/functions/sync.html>

we have

```
1 The sync() function shall cause all information in memory that updates file_
  ↳ systems to be scheduled for writing out to all file systems.
```

Currently, the RTEMS sync() implementation synchronizes only the file descriptors associated with a FILE object. This should be changed to call fsync() and fdatasync() for all file descriptors.

Author: Trac Migrate 2022-05-17T13:24:35.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"8d54187a19f6e6d2849066f80254730302482934/rtems" 8d54187/rtems]:

```
1 Synchronize all file descriptors in sync()
2
3 Synchronize all file descriptors and not just the ones associated with_
  ↳ a FILE
4 object.
```

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5
6 Close #4655.

3.1.1.44 4310 - bsp,leon3: BSP assumes that timer pre-scaler runs at 1MHz

Id	4310
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-07T14:19:31.000Z
Updated	2021-10-20T08:16:23.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4310
Merges	0

Original author: daniel

When driver manager GPTIMER driver is used a different pre-scaler can be supported by a driver setting. This is used to increase the resolution of the timer.

Author: Trac Migrate 2021-03-07T15:57:12.000Z

Original author: daniel

In [changeset:"81e4a15b188a8d3aff526fc39ca6f09ac85d27bb/rtems" 81e4a15/rtems]:

1 leon,ckinit: avoid assuming 1MHz timer pre-scaler clock
2
3 Update #4310.

Author: Trac Migrate 2021-03-09T13:27:14.000Z

Original author: daniel

- **Milestone** changed from %"6.1" to %"5.2"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Author: Trac Migrate 2021-10-20T08:16:23.000Z

Original author: daniel

Is there the same assumption in RTEMS 4.8 too?

3.1.1.45 4370 - RTEMS5: Add spi driver for AXI SPI ip core from Xilinx (cloned)

Id	4370
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-31T08:06:09.000Z
Updated	2021-04-06T13:16:42.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4370
Merges	1

Original author: soja

Cloned from [#4321](#): -> Backport to RTEMS5

Add a spidev compatible driver for the xilinx axi quad spi ip core for standard SPI mode

Author: Trac Migrate 2021-03-31T08:06:22.000Z

Original author: soja

- **Owner** set to soja
- **Status** changed from *new* to *accepted*

Author: Trac Migrate 2021-04-06T13:16:32.000Z

Original author: soja

In [changeset:"ce2b276803e6febe0492a89e48ae5de3a7d88cf1/rtems" ce2b276/rtems]:

```
1 bsp/xilinx_zynq: Add SPI driver for xilinx-axi-spi
2
3 Updates #4370
```

Author: Trac Migrate 2021-04-06T13:16:42.000Z

Original author: soja

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"ec2660548eea901e2159cf8dd3f8cd4ddd8aa6be/rtems" ec26605/rtems]:


```

1 bsp/xilinx_zynq: Add Xilinx AXI SPI driver to build
2
3 Closes #4370

```

3.1.1.46 4369 - RTEMS5: Add driver for cadence-spi device for xilinx based BSPs (cloned)

Id	4369
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-31T07:15:07.000Z
Updated	2021-04-06T13:16:22.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4369
Merges	1

Original author: soja

Cloned from [#4320](#): Backport to RTEMS5

Implement a spidev compatible driver for using the cadence-spi device of the Zynq devices in standard SPI mode.

Author: Trac Migrate 2021-03-31T07:15:33.000Z

Original author: soja

- **Owner** set to soja
- **Status** changed from *new* to *accepted*

Author: Trac Migrate 2021-04-06T13:16:11.000Z

Original author: soja

In [\[changeset:"c86d5136648ccffb63f444a15ec529ef52a270cb/rtems" c86d5136/rtems\]](#):

```

1 bsp/xilinx_zynq: Add SPI driver for cadence-spi
2
3 Updates #4369

```

Author: Trac Migrate 2021-04-06T13:16:22.000Z

Original author: soja

- **Resolution** set to ~”fixed”
- **Status** changed from *accepted* to *closed*

In [changeset:”14e74e43125ddc6cc831812e089e3423e8706fb6/rtems”
14e74e4/rtems]:

```
1 bsp/xilinx_zynq: Add cadence SPI driver to build system
2
3 Closes #4369
```

3.1.1.47 4316 - grlib,grspw_pkt: SpaceWire link-state defines corrected

Id	4316
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-07T14:45:22.000Z
Updated	2021-03-09T13:30:05.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4316
Merges	0

Original author: daniel

Numbering of SPW_LS_CONNECTING and SPW_LS_STARTED was swapped.

Author: Trac Migrate 2021-03-07T15:57:33.000Z

Original author: daniel

In [changeset:”291267113bdf2c453790fe1f6dc7c1933cf57515/rtems”
29126711/rtems]:

```
1 grlib,grspw_pkt: correct link state enum numbering
2
3 Not used by the driver itself, but shuold be correct if used by
4 application.
5
6 Update #4316.
```

Author: Trac Migrate 2021-03-09T13:30:05.000Z

Original author: daniel

- **Milestone** changed from %”6.1” to %”5.2”
- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

3.1.1.48 4315 - grlib,l2cache: prevent unused diagnostic access

Id	4315
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-07T14:42:54.000Z
Updated	2021-03-09T13:29:33.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4315
Merges	0

Original author: daniel

GR740 L2-cache driver improvement.

Author: Trac Migrate 2021-03-07T15:57:30.000Z

Original author: daniel

In [changeset:"8cfaa0eb76d248ea9afab471708fe7d35cd05a48/rtems"8cfaa0eb/rtems]:

```
1 leon, l2cache: prevent unused diagnostic access
2
3 Update #4315.
```

Author: Trac Migrate 2021-03-09T13:29:33.000Z

Original author: daniel

- **Milestone** changed from %"6.1" to %"5.2"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Minor improvement, no need to add to 5.2 changelog.

3.1.1.49 4314 - grlib,ahbstat: add new register definitions for AHBSTAT version 1

Id	4314
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-07T14:40:01.000Z
Updated	2021-03-09T13:29:07.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4314
Merges	0

Original author: daniel

This is needed for GR740 users.

Author: Trac Migrate 2021-03-07T15:57:26.000Z

Original author: daniel

In [changeset:"b0eb952427513d978ec6d80a1b86ac56abeb2a95/rtems" b0eb9524/rtems]:

```

1 leon, ahbstat: register definitions for AHBSTAT version 1
2
3 Update #4314.
```

Author: Trac Migrate 2021-03-09T13:29:07.000Z

Original author: daniel

- **Milestone** changed from %"6.1" to %"5.2"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

3.1.1.50 4313 - grlib,grspw_router: add function to control SpaceWire run clock divisor

Id	4313
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-07T14:37:36.000Z
Updated	2021-03-09T13:28:44.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4313
Merges	0

Original author: daniel

The driver needs to allow the user to set SpaceWire run clock divisor for an individual port.

Author: Trac Migrate 2021-03-07T15:57:22.000Z

Original author: daniel

In [changeset:"1161e1fb92fa5d01f66ab5b796d1813d0c0123a3/rtems" 1161e1f/rtems]:

```

1 leon, grspw_router: added router_port_link_div()
2
3 Allows user to set SpaceWire run clock divisor for an individual port.
4
5 Update #4313.
```

Author: Trac Migrate 2021-03-09T13:28:44.000Z

Original author: daniel

- **Milestone** changed from %"6.1" to %"5.2"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

3.1.1.51 4312 - bsp,leon3: need to make cpucounter restart after underflow

Id	4312
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-07T14:34:33.000Z
Updated	2021-03-09T13:28:21.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4312
Merges	0

Original author: daniel

Fix for the BSP timer initialization when GPTIMER is used as the cpucounter. Without restarting in HW the cpucounter would stop after some time.

Author: Trac Migrate 2021-03-07T15:57:16.000Z

Original author: daniel

In [changeset:"cb8379dc0915c10960a0923a9869e98869e410bd/rtems"cb8379d/rtems]:

```

1 leon: restart and load timer counter at initialization
2
3 Without this smp05 and smpthreadlife01 tests may fail
4 depending on how the boot loader initialized the GPTIMER.
5 Before the time counter stopped counting when reaching
6 zero, but tests could work since it could take 2^32 us
7 before stopping.
8
9 The timer driver will potentially overwrite this, but it
10 happens later due to the initialization order having
11 RTEMS_SYSINIT_CPU_COUNTER very early.
12
13 Update #4312.
```

Author: Trac Migrate 2021-03-09T13:28:21.000Z

Original author: daniel

- **Milestone** changed from %"6.1" to %"5.2"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

3.1.1.52 4311 - bsp,leon3: _st64() did not follow the SPARC ABI

Id	4311
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-07T14:29:23.000Z
Updated	2021-03-09T13:27:56.000Z
Milestone	5.2
Labels	arch:sparc, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4311
Merges	0

Original author: daniel

STD instruction requires even register alignment for 64-bit data.

Author: Trac Migrate 2021-03-07T15:57:19.000Z

Original author: daniel

In [changeset:"d9d96f06084b1c7d4bd8653f26cc1001b5de1d56/rtems"d9d96f0/rtems]:

```

1 sparc: fix bad register alignment for 64 bit store
2
3 Update #4311.
```

Author: Trac Migrate 2021-03-09T13:27:56.000Z

Original author: daniel

- **Milestone** changed from %"6.1" to %"5.2"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

3.1.1.53 4309 - bsp,leon3: avoid BSP dependency on apbuart/timer driver

Id	4309
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-07T14:13:17.000Z
Updated	2021-03-09T13:26:49.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4309
Merges	0

Original author: daniel

The BSP amba.c references the GPTIMER and APBUART drivers causing them to be dragged in when the driver manager is used. By moving the dependencies to a separate file the user can override the default without dragging in unused drivers.

Author: Trac Migrate 2021-03-07T15:57:09.000Z

Original author: daniel

In [changeset:"0ed294b6cce8f1cb123327f32eb8fdc973d7f4a7/rtems" 0ed294b6/rtems]:

```

1 leon3: avoid dependency on apbuart/timer driver
2
3 Moves drvmgr_drivers[] from amba.c to a separate file in order
4 to avoid the dependency on APBUART/GPTIMER drivers. This has
5 an effect when user configured not to use timer or uart
6 in their project.
7
8 Update #4309.
```

Author: Trac Migrate 2021-03-09T13:26:49.000Z

Original author: daniel

- **Milestone** changed from %"6.1" to %"5.2"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

3.1.1.54 4308 - grlib,greth: added support for variable sized descriptor table sizes

Id	4308
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-07T14:06:05.000Z
Updated	2021-03-09T13:26:25.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4308
Merges	0

Original author: daniel

Author: Trac Migrate 2021-03-07T15:57:06.000Z

Original author: daniel

In [changeset:"c13205f6916544c6f8bb2ade7ed5f2959ae6f173/rtems" c13205f/rtems]:

```

1 leon,greth: added support for variable sized descriptor table sizes
2
3 The descriptor table size is equal to its alignment and set when
4 configuring the HW IP through VHDL generics. This SW patch simply
5 probes the HW how large the RX/TX descriptor tables are and adjusts
6 accordingly.
7
8 The number of descriptors actual used are controlled by other
9 settings (rxDescs and txDescs) controlled by the user.
10
11 Update #4308.
```

Author: Trac Migrate 2021-03-09T13:26:25.000Z

Original author: daniel

- **Milestone** changed from %"6.1" to %"5.2"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Minor improvement, no need to add to 5.2 changelog.

3.1.1.55 4307 - grlib,grcanfd: extend the GRCAN driver with GRCANFD support

Id	4307
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-07T14:00:03.000Z
Updated	2021-03-09T13:25:50.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4307
Merges	0

Original author: daniel

The new GRCAN_FD IP supports CAN FD standard and is mostly backwards compatible with GRCAN SW interface. It introduces support for CAN-FD frames and a new bit-rate timing registers for new baud-rate.

The GRCAN driver have been extended to support the GRCANFD IP using the same API. Device IP-core specific functions are split into different files (grcanstd.c and grcanfd.c).

Author: Trac Migrate 2021-03-07T15:56:53.000Z

Original author: daniel

In [changeset:"e1062fae3cf16e08c949ff1bac732a0ed79d7a3a/rtems" e1062fae/rtems]:

```
1 grlib: added 64-bit read no-cache function
2
3 Update #4307.
```

Author: Trac Migrate 2021-03-07T15:56:56.000Z

Original author: daniel

In [changeset:"c41e7bae9cf8a04be6fdebe4c7ebd327f39faf02/rtems" c41e7ba/rtems]:

```
1 leon,grcan: added support for GRCANFD
2
3 The new GRCAN_FD IP supports CAN FD standard and is mostly backwards
4 compatible with GRCAN SW interface. The GRCAN driver have been extended
5 to support the GRCANFD IP using the same driver.
6
7 Additional functions have been added that uses a new CAN FD frame
8 format and read/write/baud-rate functions that supports both GRCANFD
```

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```

9 and GRCAN. To keep the SW API fully backwards compatible with GRCAN,
10 the old functions remain.
11
12 Update #4307.

```

Author: Trac Migrate 2021-03-07T15:56:59.000Z

Original author: daniel

In [changeset:"e180f281abc778d9ca7ca798d4a81d5da1a507da/rtems" e180f281/rtems]:

```

1 leon,grcanfd: split out GRCANFD specific support in separate file
2
3 Update #4307.

```

Author: Trac Migrate 2021-03-07T15:57:03.000Z

Original author: daniel

In [changeset:"23cc5a6090a4610b96cc593e2d11a6b3c028b41a/rtems" 23cc5a6/rtems]:

```

1 leon,grcan: split out GRCAN non-FD specific support in separate file
2
3 Update #4307.

```

Author: Trac Migrate 2021-03-09T13:25:50.000Z

Original author: daniel

- **Milestone** changed from %"6.1" to %"5.2"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

3.1.1.56 4306 - grlib,can: introduce a new common CAN baud-rate timing calculating functions

Id	4306
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-07T13:46:26.000Z
Updated	2021-03-09T13:25:01.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4306
Merges	0

Original author: daniel

There is no point in having two different implementations specific per GRLIB CAN device driver (OCCAN and GRCAN). Instead we can use the common CAN timing definitions and translate that into the device specific parameters using a new common calculation function.

Author: Trac Migrate 2021-03-07T15:56:43.000Z

Original author: daniel

In [changeset:"da7cb87b4df3047795f0674775131b34469d5fa5/rtems" da7cb87/rtems]:

```

1 leon,can: introduce common CAN baud-rate calculation function
2
3 Reimplemented the baud-rate algorithm from scratch to cope with
4 GRCAN, GRCANFD and OC_CAN devices.
5
6 Update #4306.
```

Author: Trac Migrate 2021-03-07T15:56:46.000Z

Original author: daniel

In [changeset:"78b45cc56169830f788458d908d308f483d41d9e/rtems" 78b45cc5/rtems]:

```

1 leon,grcan: use common CAN baud-rate calculation routine
2
3 Update #4306.
```

Author: Trac Migrate 2021-03-07T15:56:49.000Z

Original author: daniel

In [changeset:"7db032cf0216747a87b2ad4b0af07f073cb8a722/rtems" 7db032cf/rtems]:

```
1 leon,occan: use common CAN baud-rate calculation routine
2
3 Update #4306.
```

Author: Trac Migrate 2021-03-09T13:25:01.000Z

Original author: daniel

- **Milestone** changed from %"6.1" to %"5.2"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

3.1.1.57 4305 - grlib,ambapp: update GRLIB IP core ID list

Id	4305
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-07T13:41:16.000Z
Updated	2021-03-09T13:24:23.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4305
Merges	0

Original author: daniel

Add the new AMBA PnP IDs of the new cores.

Author: Trac Migrate 2021-03-07T15:56:39.000Z

Original author: daniel

In [changeset:"0ab993b04a0a0e96b9e0d23941f102b54fe36147/rtems" 0ab993b/rtems]:

```
1 grlib,ambapp: added new IP core IDs
2
3 Update #4305.
```

Author: Trac Migrate 2021-03-09T13:24:23.000Z

Original author: daniel

- **Milestone** changed from %”6.1” to %”5.2”
- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

Minor improvement, no need to add to 5.2 changelog.

3.1.1.58 4304 - grlib,grspw: SET_PACKET_SIZE could use old DMA address

Id	4304
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-07T13:37:08.000Z
Updated	2021-03-09T13:23:36.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4304
Merges	0

Original author: daniel

When the DMA table has been allocated dynamically, the IOCTL_SET_PACKETSIZE will trigger an issue where pDev->rx and pDev->tx are not updated with the new DMA tables base address. Instead the old pointers are used.

There is no point in reallocting the DMA tables because there is no configuration option to it.

Author: Trac Migrate 2021-03-07T13:37:33.000Z

Original author: daniel

- **Summary** changed from *leon,grspw: SET_PACKET_SIZE could use old DMA address* to *grlib,grspw: SET_PACKET_SIZE could use old DMA address*

Author: Trac Migrate 2021-03-07T15:56:36.000Z

Original author: daniel

In [changeset:"84fb340ac464c6aba2c5b4f3352c1c8f60466d47/rtems" 84fb340/rtems]:

```

1 leon,grspw: fix for SET_PACKET_SIZE
2
3 When the DMA table has been allocated dynamically, the IOCTL_SET_
4 ↪PACKETSIZE
5 will trigger an issue where pDev->rx and pDev->tx are not updated with
6 the new DMA tables base address. Instead the old pointers are used.
```

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```

7 There is no point in reallocating the DMA tables because there is no
8 configuration option to it. Therefore the DMA tables allocation is
9 moved to a separate function never called from SET_PACKETSIZE.
10
11 Update #4304.

```

Author: Trac Migrate 2021-03-09T13:23:36.000Z

Original author: daniel

- **Milestone** changed from %"6.1" to %"5.2"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

3.1.1.59 4303 - grlib,gr1553bc: better check of the DMA area address alignment

Id	4303
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-07T13:26:40.000Z
Updated	2021-03-09T13:22:56.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4303
Merges	0

Original author: daniel

GR1553 BC hardware truncates unaligned DMA memory addresses. Need to check input and the final DMA address and fail if unaligned address.

Author: Trac Migrate 2021-03-07T15:56:33.000Z

Original author: daniel

In [changeset:"8004ffb6491872529da5453942bd0a04822a5f46/rtems" 8004ffb/rtems]:

```

1 leon,gr1553b: Only align allocated memory. Verify alignment of memory.
2
3 Update #4303.

```

Author: Trac Migrate 2021-03-09T13:22:56.000Z

Original author: daniel

- **Milestone** changed from %”6.1” to %”5.2”
- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

Minor fix, no need to add to 5.2 Changelog.

3.1.1.60 4263 - Activate ehci_pci in rtems-libbsd

Id	4263
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-02-22T10:29:08.000Z
Updated	2021-03-09T10:38:24.000Z
Milestone	5.2
Labels	libbsd, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4263
Merges	0

Original author: GabrielMoyano

Import ehci_pci from freebsd-org using freebsd-to-rtems.py

Author: Trac Migrate 2021-03-09T10:37:15.000Z

Original author: GabrielMoyano

- **Owner** set to soja
- **Status** changed from *new* to *accepted*

Author: Trac Migrate 2021-03-09T10:38:24.000Z

Original author: GabrielMoyano

- **Resolution** set to ~”fixed”
- **Status** changed from *accepted* to *closed*

Fixed with <https://git.rtems.org/rtems-libbsd/commit/?h=5-freebsd-12&id=ea5d0c78038d92597983c0922a011a62f5dc2dea>

3.1.1.61 4236 - bsp/zynq: termios not working correctly for stdin

Id	4236
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-02-09T12:22:15.000Z
Updated	2021-03-09T08:30:38.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4236
Merges	1

Original author: soja

The termios test application does not work correctly for Zynq based BSPs. Also scanf and similar functions reading from stdin do return immediately and do not block as expected.

The console driver has been fixed in master. This should be backported to 5.x.

Author: Trac Migrate 2021-03-09T08:30:07.000Z

Original author: soja

In [changeset:"2f323700b9cde52603e5773611bdc8932c109f58/rtems" 2f32370/rtems]:

```

1 zynq-uart: Fix set_attributes implementation
2
3 The zynq-uart set_attributes implementation was configured to always
4 return false which causes spconsole01 to fail. This restores the
5 disabled implementation which sets the baud rate registers
6 appropriately and allows spconsole01 to pass. This also expands the
7 set_attributes functionality to allow setting of the stop bits,
8 character width, and parity.
9
10 Updates #4236

```

Author: Trac Migrate 2021-03-09T08:30:38.000Z

Original author: soja

- **Owner** set to Jan Sommer <jan.sommer@dlr.de>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"645dbc5fccd8b73e12ca17ab35962fe751854913/rtems" 645dbc5/rtems]:

```

1 bsp/shared: Allow setting baud rate for zynq uart
2
3 Closes #4236

```

3.1.1.62 4266 - motorola_powerpc bootloader images not linking correctly

Id	4266
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2021-02-24T05:52:30.000Z
Updated	2021-03-03T19:58:04.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4266
Merges	1

The change to support code and data sections has broken creating net boot images for the MVME 2700 (mvme2307) BSP. The linker command file ppcboot.lds does not handle the per function text sections.

Author: Trac Migrate 2021-02-24T21:50:13.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"3824960f24304eec051fdc59121ba9ba8a8346da/rtems" 3824960/rtems]:

```

1 powerpc/motorola_power: Link all text sections into the executable image
2
3 - The change to building all code with code and data sections means
4 we have a section per function. Make sure all functions are
5 placed in the text section.
6
7 Closes #4266

```

Author: Chris Johns 2021-02-26T04:19:33.000Z

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

The change does not resolve the issue. I am not sure what happened in my testing.

The bootloader linked executable has the .text.* sections present. I am wondering if the Motorola debug monitor is not capable of loaded this type of ELF file. As a result the card information is not found and boot process fails. You can observe this

by running `readelf -a` on the `rtems.img.elf` file created when making the image file. This is the RTEMS 5 executable linked with the RTEMS 6 bootloader:

1	Section Headers:							
2	[Nr]	Name	Type	Addr	Off	Size	ES Flg	Lk_
		↪ Inf Al						
3	[0]		NULL	00000000	000000	000000	00	0_
		↪ 0 0						
4	[1]	.text	PROGBITS	00000000	010000	00f145	00 AX	0_
		↪ 0 32						
5	[2]	.eh_frame	PROGBITS	0000f148	01f148	0017e0	00 A	0_
		↪ 0 4						
6	[3]	.image	PROGBITS	00010928	020928	017778	00 WA	0_
		↪ 0 1						
7	[4]	.reloc	PROGBITS	000280a0	0380a0	0002bc	00 WA	0_
		↪ 0 4						
8	[5]	.handlers	PROGBITS	0002835c	03835c	0003ac	00 WA	0_
		↪ 0 1						
9	[6]	.data	PROGBITS	00028720	038720	003c80	00 WA	0_
		↪ 0 32						
10	[7]	.bss	NOBITS	0002c3a0	03c3a0	001158	00 WA	0_
		↪ 0 32						
11	[8]	.gnu.attributes	GNU_ATTRIBUTES	00000000	03c3a0	000010	00	0_
		↪ 0 1						
12	[9]	.symtab	SYMTAB	00000000	03c3b0	0066c0	10	10_
		↪ 698 4						
13	[10]	.strtab	STRTAB	00000000	042a70	00616c	00	0_
		↪ 0 1						
14	[11]	.shstrtab	STRTAB	00000000	048bdc	00005e	00	0_
		↪ 0 1						

The RTEMS 6 executable has more code than the RTEMS 5. I tried a number of combinations in the linker command script but could not find a suitable result.

I have now looked into fixing the building of the bootloader in the RTEMS 5 automake build system and there are some fundamental issues present and I am yet to decide how this is to be resolved.

The bootloader Makefile has a variable `BOOTLOADER_CPU_FLAGS`: https://git.rtems.org/rtems/tree/c/src/lib/libbsp/powerpc/motorola_powerpc/bootloader/Makefile.am?h=5#n22 This is empty because `CPU_FLAGS` is not exported into this file:

```
1 $ grep CPU_FLAGS powerpc-rtems5/c/mvme2307/lib/libbsp/powerpc/motorola_
↪ powerpc/bootloader/Makefile
2 $
```

The CPU flags are being provided the globally set `CFLAGS` and this includes the text and data segment flags which is causing the problem. Adding:

```
1 CFLAGS =
2 CPPFLAGS =
3 CCASFLAGS =
```

Results in no valid CPU flags being set.

I am reluctant to add exporting the CPU flags to a high level in the build process because it will be seen by all BSPs and it is very difficult to know if there are possible side effects in another BSP.

I cannot only see a couple of solutions:

1. Remove the problem flags from the build
2. Find a way to include the config with the flags

Author: Chris Johns 2021-02-26T07:14:46.000Z

I have isolated the issue to the building of `zlib.c` by the RTEMS 5 gcc. If I build just this file with the RTEMS 6 gcc the board boots.

Author: Chris Johns 2021-02-26T19:04:37.000Z

Comparing the `zlib.o` ELF sections for RTEMS 5 and 6 the `.bss` size is almost 0:

1	Section Headers:							
2	[Nr]	Name	Type	Addr	Off	Size	ES Flg Lk	
		↪ Inf Al						
3	[0]		NULL	00000000	000000	000000	00	0
		↪ 0 0						
4	[1]	.text	PROGBITS	00000000	000034	003cb8	00 AX	0
		↪ 0 4						
5	[2]	.rela.text	RELA	00000000	004890	000444	0c I	16
		↪ 1 4						
6	[3]	.data	PROGBITS	00000000	003cec	00027c	00 WA	0
		↪ 0 4						
7	[4]	.bss	NOBITS	00000000	003f68	000008	00 WA	0
		↪ 0 4						

and `zlib` has a set of tables it generates. The RTEMS 6 or gcc-10 ELF sections are:

1	Section Headers:							
2	[Nr]	Name	Type	Addr	Off	Size	ES Flg Lk	
		↪ Inf Al						
3	[0]		NULL	00000000	000000	000000	00	0
		↪ 0 0						
4	[1]	.text	PROGBITS	00000000	000034	003c7c	00 AX	0
		↪ 0 4						
5	[2]	.rela.text	RELA	00000000	005014	000444	0c I	18
		↪ 1 4						
6	[3]	.data	PROGBITS	00000000	003cb0	00027c	00 WA	0
		↪ 0 4						
7	[4]	.bss	NOBITS	00000000	003f2c	0010a8	00 WA	0
		↪ 0 4						

An inspection of the generated assembler shows the data being allocated using the `.comm` directory placing the data in the common section. Adding `-f-no-common` to the building of the bootloader has it working.

Author: Chris Johns 2021-02-26T19:06:17.000Z

GCC 10 defaults to `-fno-common` ...

https://gcc.gnu.org/bugzilla/show_bug.cgi?id=85678

Author: Chris Johns 2021-02-26T19:21:14.000Z

The preferred solution is to add `*(COMMON)` to the `.bss` section in the linker command file used to link the boot loader. This will work with any gcc version and default they decide on.

Author: Trac Migrate 2021-02-28T01:28:36.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

In [changeset:"d1bab986ca364cc691f332d914d8bb0e4142886b/rtems" d1bab98/rtems]:

```
1 powerpc/motorola_power: Place any common data in the .bss section
2
3 - It seems the compiler how defaults to -fcommon and this means
4 some uninitialised data is ignored.
5
6 Closes #4266
```

Author: Trac Migrate 2021-02-28T03:37:18.000Z

In [changeset:"75fb7a0ee5d76f392e3b38bb920969dffef6e86c/rtems" 75fb7a0e/rtems]:

```
1 powerpc/motorola_power: Link all text sections into the executable image
2
3 - The change to building all code with code and data sections means
4 we have a section per function. Make sure all functions are
5 placed in the text section.
6
7 Closes #4266
```

Author: Trac Migrate 2021-02-28T03:37:22.000Z

In [changeset:"96918affc34e50cccdf30b1c8e0fe0e73d122d78/rtems" 96918af/rtems]:

```

1 powerpc/motorola_power: Place any common data in the .bss section
2
3 - It seems the compiler how defaults to -fcommon and this means
4 some uninitialised data is ignored.
5
6 Closes #4266

```

Author: Trac Migrate 2021-03-03T19:58:04.000Z

Maybe worthwhile looking into the `-orphan-handling=MODE` argument for `ld` in newer `binutils`? At least “warn” if not “error” seems like it would have made this situation more obvious.

<https://sourceware.org/binutils/docs/ld/Orphan-Sections.html>

3.1.1.63 4248 - PowerPC shared ISA IRQ support is broken (cloned)

Id	4248
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2021-02-16T04:19:03.000Z
Updated	2021-02-16T20:30:07.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4248
Merges	1

Cloned from [#4239](#):

The PowerPC shared ISA IRQ management in `i8259s.c` is broken. It fails to handle:

- Interrupt acknowledgements for the slave controller when the master has a lower priority pending interrupt acknowledge the slave and the master controllers
- The nesting support to suspend and resume an interrupt does not correctly handle the enable/disable
- The initialise of an interrupt does not handle any pending request
- Locks up when using with the IRQ server which is executing the handler in a task context

All these issues have been fixed in the i386 BSP however the code between is not shared as the i386 BSP has BSP specific IRQ management code as well.

Author: Trac Migrate 2021-02-16T20:30:07.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:"2f56b7375a36039750eee0ffbc7a5bd0e4382075/rtems" 2f56b737/rtems]:

```

1 Update motorola_power to irq-generic interrupt management
2
3 - Add support to the BSP to enable irq-generic management
4
5 - Update the powerpc shared irq code to support irq-generic. This
6 is an opt in option for existing powerpc bsps. This change
7 should be simpler now
8
9 - Fix a number of issues in ISA IRQ controller handling by porting
10 fixes from the i386 (PC) BSP
11
12 Closes #4247
13 Closes #4248

```

3.1.1.64 4247 - Change motorola_powerpc bsp to support irq-generic (cloned)

Id	4247
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2021-02-16T04:18:24.000Z
Updated	2021-02-16T20:30:07.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4247
Merges	1

Cloned from [#4238](#):

Update the motorola_powerpc to support irq-generic moving the IRQ management to the IRQ server. This enables libbsd support for interrupts.

Author: Trac Migrate 2021-02-16T20:30:07.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"2f56b7375a36039750eee0ffbc7a5bd0e4382075/rtems" 2f56b737/rtems]:

```

1 Update motorola_power to irq-generic interrupt management
2
3 - Add support to the BSP to enable irq-generic management

```

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```

4
5 - Update the powerpc shared irq code to support irq-generic. This
6 is an opt in option for existing powerpc bsps. This change
7 should be simpler now
8
9 - Fix a number of issues in ISA IRQ controller handling by porting
10 fixes from the i386 (PC) BSP
11
12 Closes #4247
13 Closes #4248

```

3.1.1.65 4249 - fix mkimage.py script type processing

Id	4249
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2021-02-16T05:21:34.000Z
Updated	2021-02-16T05:24:00.000Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4249
Merges	0

The explanation is taken from André on the user list:

Hello,

after some digging I think I found the problem and at least a workaround.

As a disclaimer, I do not know if this really counts as a general fix. I have not invested enough time to dig through the original mkimage U-Boot source to figure this out. But I have attached my workaround patch if anyone might face the same problems.

The source of the problem are eight bytes between the header and the actual input file which are missing when using mkimage.py. Also the input size and input crc are wrong which is a result of the missing bytes.

These eight bytes always reflect the actual size of the input file (first four bytes) with four bytes zeros following. Within the original mkimage tool these eight bytes are considered part of the input file section in the output file. Therefore the calculated input size is eight bytes higher and the input crc differs.

As a workaround the mkimage.py script will add these eight bytes to the output file and the input crc calculation and adjusts the input size. This only happens when the type script was selected.

Best regards André

<https://lists.rtems.org/pipermail/users/2021-January/068060.html> <https://lists.rtems.org/pipermail/users/2021-February/068140.html> <https://lists.rtems.org/pipermail/devel/2021-February/064491.html>

Author: Trac Migrate 2021-02-16T05:24:00.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"e621fd98e78c96b281211e666dedb5f3e81e6050/rtems-tools" e621fd9/rtems-tools]:

```
1 misc: tools: fix mkimage.py script type processing
2
3 Closes #4249
```

3.1.1.66 4234 - powerpc/motorola_shared display current RTEMS on boot

Id	4234
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2021-02-07T03:00:53.000Z
Updated	2021-02-10T06:36:05.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4234
Merges	1

The boot messages display the RTEMS version. Display the current version and not a hard coded version:

```
1 -----
2 Welcome to rtems-5.0.0 (PowerPC/Generic (classic FPU)/mvme2307) on MVME 2600/2700_
  ↳with MVME761
3 -----
```

Author: Trac Migrate 2021-02-10T06:36:05.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"388bd8054c6f9148d709fee4d4deaca06f378886/rtems" 388bd805/rtems]:

```
1 bsp/motorola_powerpc: Print RTEMS_VERSION from the bootloader
2
3 Close #4234
```

3.1.1.67 4233 - MVME 2600/2700 has no console output (cloned)

Id	4233
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2021-02-07T02:58:12.000Z
Updated	2021-02-10T06:36:01.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4233
Merges	1

Cloned from [#4231](#):

A single character is output then nothing further. Tests output using the printk but spconsole01 fails.

It seems there is a problem with the UART driver interrupts.

Author: Trac Migrate 2021-02-10T06:36:01.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"6d9843e189d584a3a18cb4f8fd96f5016175514d/rtems" 6d9843e/rtems]:

```

1 powerpc/shared: ISA bus bridge fails to enable the openpic irq
2
3 - The call to enable the openpic irq for the ISA bridge fails
4 because the IRQ used is offset by the ISA bus signals and
5 the openpic call expects an IRQ relative to its signals.
6
7 - Add the MVME 2600/2700 to the list of boards with an ISA bridge.
8
9 Closes #4233
```

3.1.1.68 4224 - Missing “extern” in RTEMS_LINKER_ROSET_ITEM_ORDERED_DECLARE() (cloned)

Id	4224
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-01-25T05:43:27.000Z
Updated	2021-01-25T05:48:17.000Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4224
Merges	1

Original author: sebastian.huber

Cloned from [#4223](#):

The fix for [#3865](#) contains a typo. In RTEMS_LINKER_ROSET_ITEM_ORDERED_DECLARE() there is a missing “extern”.

Author: Trac Migrate 2021-01-25T05:48:17.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”5ae7ec94773478b5d57bf20592d94deb789d372b/rtems”
5ae7ec9/rtems]:

```

1 Fix RTEMS_LINKER_ROSET_ITEM_ORDERED_DECLARE()
2
3 Add "extern" similar to RTEMS_LINKER_RWSET_ITEM_ORDERED_DECLARE().
4
5 Close #4224.
```

3.1.1.69 4174 - devctl.h does not compile from C++

Id	4174
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2020-11-09T21:34:40.000Z
Updated	2020-12-10T21:08:18.000Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::newlib, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4174
Merges	0

The closing boilerplate of the C++ extern C wrapper is out of order with another #endif and the resulting code does not compile.

The attached patch addresses this but it needs to be merged to newlib and the RSB updated before this ticket closed.

Patch to newlib is on [#4193](#).

- [0001-libc-include-newlib.h-Fix-C-compilation-issue.patch](#)

Author: Joel Sherrill 2020-11-09T21:35:20.000Z

- **Attachment** [0001-libc-include-newlib.h-Fix-C-compilation-issue.patch](#) added

Rework closing endif's to compile on C++

Author: Joel Sherrill 2020-11-16T14:19:02.000Z

Fixed pushed to newlib.

<https://sourceware.org/git/?p=newlib-cygwin.git;a=commit;h=302b82afee423fcb5a447a222e2b771ef9c06ee0>

Author: Joel Sherrill 2020-11-17T15:44:02.000Z

- **Owner** set to sebastian.huber

Assigning to Sebastian since he is bumping the RSB recipes and can close when that is done.

Author: Joel Sherrill 2020-12-08T17:47:04.000Z

- **Description** changed

```

1 The closing boilerplate of the C++ extern C wrapper is out of order.
  ↳ with another #endif and the resulting code does not compile.
2
3 The attached patch addresses this but it needs to be merged to newlib.
  ↳ and the RSB updated before this ticket closed.
4 +
5 + Patch to newlib is on #4193.

```

- **Owner** set to @joel

Author: Trac Migrate 2020-12-10T21:08:18.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"803d42cda7b3360128126bc2748b5d2b452a8973/rtems-source-builder" 803d42c/rtems-source-builder]:

```

1 Add patch to newlib for devctl.h to compile with C++
2
3 Closes #4174.

```

3.1.1.70 4190 - Back port rtems_interrupt_server_create() improvements

Id	4190
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-11-25T07:31:46.000Z
Updated	2020-11-25T07:33:28.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4190
Merges	1

Original author: sebastian.huber

Back port 99c73303deb09ad66d4cc1c89961f62e4e618938 to RTEMS 5 to fix "fman" network interface driver issues in libbsd.

Author: Trac Migrate 2020-11-25T07:33:28.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"dedc3e1d49eaf5b4f5a9180c075ad5793532c52f/rtems" dedc3e1d/rtems]:

```

1 rtems: Improve rtems_interrupt_server_create()
2
3 Also start interrupt server tasks on processors which do not have a
4 scheduler. Applications may dynamically manage processors using
5 rtems_scheduler_remove_processor() and rtems_scheduler_add_processor().
6
7 Close #4190.
```

3.1.1.71 4189 - rtems_interrupt_server_delete() does not destroy the ISR lock of the server control (cloned)

Id	4189
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-11-25T07:24:37.000Z
Updated	2020-11-25T07:33:25.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4189
Merges	1

Original author: sebastian.huber

Cloned from #4158:

This leads to memory corruption if RTEMS_PROFILING and RTEMS_SMP is enabled.

Author: Trac Migrate 2020-11-25T07:33:25.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1dbdf94e67da026238ee051f4c438a93e9a76412/rtems" 1dbdf94e/rtems]:

```

1 bsp: Fix rtems_interrupt_server_delete()
2
3 The ISR lock must be destroyed to prevent memory corruption if RTEMS_
4 ↪PROFILING
5 and RTEMS_SMP is enabled.
6
7 Close #4189.
```

3.1.1.72 4169 - Link problem of C++ tests when using libpci in BSP

Id	4169
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-10-29T13:19:02.000Z
Updated	2020-10-30T02:22:13.000Z
Milestone	5.2
Labels	library, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4169
Merges	1

Original author: soja

When using libpci in a custom BSP we experienced linking problems for C++ test (e.g. spcxx01).

The reason is the missing extern C include guards for confdefs/libpci.h. Therefore, the reference to pci_config_lib_init is mangled.

A patch fixing this problem is provided here: <https://lists.rtems.org/pipermail/dev/2020-October/062981.html>

Author: Trac Migrate 2020-10-30T02:22:13.000Z

Original author: soja

- **Owner** set to Jan Sommer <jan.sommer@dlr.de>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"f84c4a5b8107867a78326cca754c5278df768bb8/rtems" f84c4a5/rtems]:

```

1 confdefs: Add extern C guards to libpci.h
2
3 Closes #4169
```

3.1.1.73 4165 - Fix NVMe disk synchronization and media block handling (cloned)

Id	4165
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-10-27T05:24:30.000Z
Updated	2020-10-27T05:27:52.000Z
Milestone	5.2
Labels	libbsd, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4165
Merges	0

Original author: sebastian.huber

Cloned from [#4164](#).

Author: Trac Migrate 2020-10-27T05:27:52.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

3.1.1.74 4149 - RFS bit map search buffer overflow

Id	4149
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-10-15T06:13:07.000Z
Updated	2020-10-16T23:55:53.000Z
Milestone	5.2
Labels	filesystem::rfs, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4149
Merges	1

Cloned from [#4148](#):

The bit search create writes past the end of its buffer. See:

<https://lists.rtems.org/pipermail/devel/2020-October/062701.html>

Author: Trac Migrate 2020-10-16T23:55:53.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"7021c014640a24248b2aa7245a1e6248bb5c832a/rtems" 7021c014/rtems]:

```

1 libfs/rfs: Check search bit map end on last bit
2
3 - Do not write past the last location of the search bit map
4 whe nit is being created.
5
6 Closes #4149

```

3.1.1.75 4114 - Cortex-A9 MPCore based BSPs should include the workaround for Errata 794072 and 845369

Id	4114
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-10-02T09:34:40.000Z
Updated	2020-10-16T04:48:30.000Z
Milestone	5.2
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4114
Merges	1

Original author: sebastian.huber

The workaround may be already set up by the bootloader. Not having the workaround applied may lead to system crashes, so make sure the BSP does it during system startup.

Author: Trac Migrate 2020-10-05T06:46:34.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 - The workaround may be already set up by the bootloader. Not having_
  ↳ the workaround applied may lead to system crashes, so make sure the_
  ↳ BSP sets it also during system startup.
2 ?
  ↳
  ↳ -----
3
4 + The workaround may be already set up by the bootloader. Not having_

```

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```

↪the workaround applied may lead to system crashes, so make sure the
↪BSP does it during system startup.
5 ?
↪
↪+++

```

- **Summary** changed from *Cortex-A9 MPCore based BSPs should include the workaround for Errata 845369* to *Cortex-A9 MPCore based BSPs should include the workaround for Errata 794072 and 845369*

Author: Trac Migrate 2020-10-16T04:48:26.000Z

Original author: sebastian.huber

In [changeset:"3d7da43562d83faf93f9a3827408d2a13a3658d3/rtems" 3d7da435/rtems]:

```

1 bsp/arm: Workaround for Errata 845369
2
3 Add a workaround for Cortex-A9 Errata 845369: Under Very Rare Timing
4 Circumstances Transition into Streaming Mode Might Create Data
↪Corruption.
5
6 Update #4114.

```

Author: Trac Migrate 2020-10-16T04:48:30.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"e71e271ce15504559f3bda019f5adc9ddb4fd0bf/rtems" e71e271/rtems]:

```

1 bsp/arm: Add workaround for Errata 794072
2
3 Add a workaround for Cortex-A9 Errata 845369: A short loop including a
↪DMB
4 instruction might cause a denial of service on another which executes a
↪CP15
5 broadcast operation.
6
7 Close #4114.

```

3.1.1.76 4099 - Enhance rtems-bsps to print canonical names of bsp

Id	4099
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-09-28T22:43:16.000Z
Updated	2020-09-29T12:59:41.000Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4099
Merges	1

Original author: rlong

For some purposes it is nice to have a list of the BSPs in the form ARCHITECTURE/BSP, which can be fed into other scripts.

- [0001-rtems-bsps-add-ability-to-print-architecture-bsp-lis.patch](#)

Author: Trac Migrate 2020-09-28T22:52:00.000Z

Original author: rlong

- **Attachment** [0001-rtems-bsps-add-ability-to-print-architecture-bsp-lis.patch](#) added

Patch to add printing of architecture/bsps

Author: Trac Migrate 2020-09-29T05:11:25.000Z

Original author: rlong

- **Owner** set to Ryan Long <ryan.long@oarcorp.com>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In `[changeset:"0805930d0c1ee11fc74c6028d93a3aaff1973e02/rtems"0805930/rtems]`:

```
1 rtems-bsps: add ability to print architecture/bsp list
2
3 Closes #4099.
```

Author: Trac Migrate 2020-09-29T12:59:41.000Z

Original author: rlong

In [changeset:"fdbe9b75994e90c71ee38212ec2d6867c9fa9b01/rtems" fdbe9b7/rtems]:

```
1 rtems-bsps: add ability to print architecture/bsp list
2
3 Closes #4099.
```

3.1.1.77 4082 - License files missing on 5-freebsd-12 branch

Id	4082
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-09-17T09:23:31.000Z
Updated	2020-09-28T11:51:48.000Z
Milestone	5.2
Labels	priority::low, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4082
Merges	0

Original author: Christian Mauderer

The commits

<https://git.rtems.org/rtems-libbsd/commit/libbsd.py?id=c64a1ebaf9c8871f3f72b8754097e272043012d6>
<https://git.rtems.org/rtems-libbsd/commit/libbsd.py?id=e2fc9082816452844a53dc97f862375b74d9523b>
<https://git.rtems.org/rtems-libbsd/commit/libbsd.py?id=589f43d6af2302623229760fb0f37378241b8bfe>

haven't been added to the 5-freebsd-12 branch. Therefore the License files are missing.

Author: Trac Migrate 2020-09-28T11:51:26.000Z

Original author: Christian Mauderer

Fixed with patches 640b2a03b87481bd1a3c80d6e33a2a8a13868734,
5b3ee7027991fbf290e982a4eaffe7ea7ad21ae6, 9dd0bc27e3338bad08eaaf52d03265d2e7b9b4f7
in libbsd.

Author: Trac Migrate 2020-09-28T11:51:48.000Z

Original author: Christian Mauderer

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

3.1.1.78 4094 - RSB: pkgconfig.py uses python2 specific “unicode” keyword

Id	4094
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-09-24T23:16:45.000Z
Updated	2020-09-26T01:01:38.000Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4094
Merges	0

Original author: stephenclark

<https://git.rtems.org/rtems-source-builder/tree/source-builder/sb/pkgconfig.py#n218> uses the unicode keyword which is python2 specific. This problem exists on both the 5 branch and the master.

- [0001-pkgconfig.py-Removed-use-of-unicode-keyword-for-pyth.patch](#)

Author: Trac Migrate 2020-09-25T21:47:24.000Z

Original author: stephenclark

- **Attachment** [0001-pkgconfig.py-Removed-use-of-unicode-keyword-for-pyth.patch](#) added

Patch for 5 branch

Author: Trac Migrate 2020-09-26T01:00:05.000Z

Original author: stephenclark

- **Owner** set to Stephen Clark <stephen.clark@oarcorp.com>
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In [changeset:”e32e184d69b3a54059c9bf9a72a037eb7f9de6db/rtems-source-builder” e32e184/rtems-source-builder]:

```

1 pkgconfig.py: Removed use of "unicode" keyword for python3 compatibility
2
3 Closes #4094.
```

Author: Trac Migrate 2020-09-26T01:01:38.000Z

Original author: stephenclark

In [changeset:"ed5030bc24dbfdfac52074ed78cf4231bf1f353d/rtems-source-builder" ed5030b/rtems-source-builder]:

```
1 pkgconfig.py: Removed use of "unicode" keyword for python3 compatibility
2
3 Closes #4094.
```

3.1.1.79 4092 - bsp/pc386: Add missing license header

Id	4092
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2020-09-23T13:19:03.000Z
Updated	2020-09-23T13:30:01.000Z
Milestone	5.2
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4092
Merges	0

bspsmp.c is missing a licence header.

Author: Joel Sherrill 2020-09-23T13:30:01.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"1f77518fcab14b14868849c0f166b43136ff974b/rtems" 1f77518/rtems]:

```
1 bsp/pc386: Add missing license header
2
3 Closes #4092.
```

3.1.1.80 2830 - throwing std::runtime on PC BSP fails.

Id	2830
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2016-12-02T05:10:06.000Z
Updated	2020-09-21T21:14:32.000Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::gcc, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2830
Merges	0

Throwing a `std::runtime()` exception locks up.

The lock up is in the exception clean up handler where the exception object is destructed. The destructor loops destructing the `std::string` object. The path ends up in `libstdc++-v3/include/ext/atomicity.h` line 48 or `__exchange_and_add`.

At a guess it would seem like the C++ atomics on i386 is broken or fragile.

UPDATE: This was broken when gcc i386 eliminated `-mcpu` in favor of `-march/-mtune`. The multilibs were built with `-mtune` and not `-march`.

- [0001-patch-gcc-i386-multiarch.patch](#)
- [cdtest-throw-std_runtime.diff](#)
- [gcc-7.5.0-i386march-1.diff](#)

Author: Chris Johns 2016-12-02T05:10:43.000Z

- **Attachment** [cdtest-throw-std_runtime.diff](#) added

Patch to the cdtest sample that shows the problem

Author: Chris Johns 2016-12-02T05:12:22.000Z

- **Description** changed

```

1 - Throwing a `std::runtime()` exception lock up.
2 + Throwing a `std::runtime()` exception locks up.
3 ?                                     +
4
5
6 - The lock up is in the exception clean up handler where the exception_
  ↳ object is destructed. The destructor loop destructing the std::string_
  ↳ object. The path ends up in libstdc++-v3/include/ext/atomicity.h line_
  ↳ 48 or __exchange_and_add.
7 + The lock up is in the exception clean up handler where the exception_
  ↳ object is destructed. The destructor loops destructing the_
  ↳ std::string object. The path ends up in libstdc++-v3/include/ext/_
  ↳ atomicity.h line 48 or __exchange_and_add.
8 ?                                     +
9 ↳                                     +
10
11 + At a guess it would seem like the C++ atomics on i386 is broken or_
  ↳ fragile.

```

Author: Trac Migrate 2016-12-09T07:02:30.000Z

Works at least on SPARC and ARM. On which BSP fails this?

Author: Chris Johns 2016-12-09T11:24:02.000Z

Replying to [sebastian.huber](#):

Works at least on SPARC and ARM. On which BSP fails this?

i386/pc686 tested on qemu with a core2duo cpu.

Author: Trac Migrate 2017-02-15T14:20:42.000Z

- **Milestone** changed from %”4.12” to %”Indefinite”
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2020-09-10T20:24:40.000Z

I’m observing a hang with RTEMS 5.1 with i386/pc686 which may be this issue, though it does not looks to me to be in an exception class ctor. This is a test case I’m running in QEMU w/ 1 virtual CPU.

It’s on exit from an `catch(...){` block. The actual hang appears to be a tight loop in the `__atomic_fetch_add_4` builtin. Specifically, these three instructions.

```
1 => 0x3f1780 <libat_fetch_add_4>:      mov     $0x5,%eax
2 0x3f1785 <libat_fetch_add_4+5>:      mov     %eax,0xc(%esp)
3 0x3f1789 <libat_fetch_add_4+9>:      jmp     0x3f1780 <libat_fetch_add_4>
```

The stack trace is:

```
1 (gdb) bt
2 #0  libat_fetch_add_4 (mptr=0x75d7bc, opval=4294967295, smodel=5) at ../
   ↪ .././../gcc-7.5.0/libatomic/fop_n.c:44
3 #1  0x003b07fc in __gnu_cxx::__exchange_and_add (__val=-1, __
   ↪ mem=0x75d7bc)
4 at /home/mdavidsaver/source/rtems/rtems-source-builder-5.1/rtems/build/
   ↪ i386-rtems5-gcc-7.5.0-newlib-7947581-x86_64-linux-gnu-1/build/i386-
   ↪ rtems5/mpentiumpro/libstdc++-v3/include/ext/atomicity.h:49
5 #2  __gnu_cxx::__exchange_and_add_dispatch (__val=-1, __mem=0x75d7bc)
6 at /home/mdavidsaver/source/rtems/rtems-source-builder-5.1/rtems/build/
   ↪ i386-rtems5-gcc-7.5.0-newlib-7947581-x86_64-linux-gnu-1/build/i386-
   ↪ rtems5/mpentiumpro/libstdc++-v3/include/ext/atomicity.h:82
7 #3  __gnu_cxx::__eh_atomic_dec (__count=0x75d7bc) at .././../gcc-
   ↪ 7.5.0/libstdc++-v3/libsupc++/eh_atomics.h:72
8 #4  __gxx_exception_cleanup (code=_URC_FOREIGN_EXCEPTION_CAUGHT, _
   ↪ exc=0x75d7fc)
9 at .././../gcc-7.5.0/libstdc++-v3/libsupc++/eh_throw.cc:46
10 #5  0x003ad9cb in _Unwind_DeleteException (exc=0x75d7fc) at .././../
   ↪ gcc-7.5.0/libgcc/unwind.inc:271
11 #6  0x003af8d0 in __cxxabiv1::__cxa_end_catch () at .././../gcc-
   ↪ 7.5.0/libstdc++-v3/libsupc++/eh_catch.cc:125
12 #7  0x001012fd in epicsTimeTest () at ../epicsTimeTest.cpp:116
```

Author: Trac Migrate 2020-09-11T04:51:16.000Z

If this BSP uses libatomic to load a 32-bit value, then it uses an obsolete instruction set.

Author: Trac Migrate 2020-09-11T16:56:14.000Z

I've not come across 'libatomic' before. I guess this is some compatibility glue for older x86?

From some playing around, it looks like the toolchain gcc is defaulting to '-march=i386' if no other option is provided. Maybe not surprising given that the toolchain name is 'i386-rtems5'. '<prefix>/make/custom/pc686.cfg' has '-mtune=pentiumpro -march=pentium'. Passing this to a short test seems to result in the intrinsic actually being used. So I guess the RTEMS kernel config/build is ok?

Starting from the linker map of epicsTimeTest, I see that the symbol `__atomic_fetch_add_4` (aka. 'libat_fetch_add_4') is undefined in `<prefix>/lib/gcc/i386-rtems5/7.5.0/mpentiumpro/libstdc++.a`. So I guess this means that the (multilib?) build of libstdc++ is not being done correctly?

My knowledge of GCC internals doesn't extend beyond `./configure` arguments. So I don't know where to look next.

Author: Joel Sherrill 2020-09-11T22:07:20.000Z

Could someone please try this test case with `-march=i486` as the compiler selection?

I think we need to move the base uniprocessor x86 CPU model up from vanilla i386 w/FPU but what the new floor needs to be is TBD. If I understand things correctly, i486 is the minimum with any atomic instructions but you have to get into the pentium II era to get the earliest SMP support.

I'm not sure if going beyond i486 is needed for uniprocessor but that may be sufficient. For SMP, you probably need to go to at least pentium II. On Qemu, I used core2duo long ago to test SMP.

If we move the floor to greater than or equal to Pentium, there is more opportunity to remove a small bit of code. But I'd like to know the bare technical minimums first.

So what is the lowest architecture (`-march=XXX`) that appears to solve this for you?

Author: Trac Migrate 2020-09-11T23:18:34.000Z

I may have answered part of my question with a lucky grep of the gcc source. I found '`gcc/config/i386/t-rtems`' which seems to show that the different multilib versions are built with '`-mtune=...`', and presumably defaulting to '`-march=i386`'. RTEMS itself in '`<prefix>/make/custom/pc686.cfg`' has '`-march=pentium`'. What is the logic here?

```

1 MULTILIB_OPTIONS = mtune=i486/mtune=pentium/mtune=pentiumpro msoft-float
2 MULTILIB_DIRNAMES= m486 mpentium mpentiumpro soft-float
3 MULTILIB_MATCHES = msoft-float=mno-80387
4 MULTILIB_MATCHES += mtune?pentium=mtune?k6 mtune?pentiumpro=mtune?athlon
5 MULTILIB_EXCEPTIONS = \
6 mtune=pentium/*msoft-float* \
7 mtune=pentiumpro/*msoft-float*

```

Author: Trac Migrate 2020-09-12T07:47:29.000Z

We have two different issues:

1. The i386 BSPs use probably obsolete instruction sets which lead to the use of libatomic.
2. If libatomic is used, then there is some broken behaviour.

The libatomic seems to work fine on other architectures, e.g. it is also used by the sparc/erc32 BSP. Here the cdtest.exe test program runs successfully and executes a similar context:

```

1 Breakpoint 2, libat_fetch_add_4 (mptr=0x203d798, opval=4294967295,
  ↳ smodel=4) at ../../gnu-mirror-gcc-c72a1b6/libatomic/fop_n.c:164
2 164      ../../gnu-mirror-gcc-c72a1b6/libatomic/fop_n.c: No such file
  ↳ or directory.
3 (gdb) bt
4 #0  libat_fetch_add_4 (mptr=0x203d798, opval=4294967295, smodel=4) at ..
  ↳ ../../gnu-mirror-gcc-c72a1b6/libatomic/fop_n.c:164
5 #1  0x0200eda0 in __gnu_cxx::__exchange_and_add (__val=-1, __
  ↳ mem=0x203d798) at /home/EB/sebastian_h/src/rtems-source-builder/rtems/
  ↳ build/sparc-rtems6-gcc-c72a1b6-newlib-ece49e4-x86_64-linux-gnu-1/
  ↳ build/sparc-rtems6/libstdc++-v3/include/ext/atomicity.h:84
6 #2  __gnu_cxx::__exchange_and_add_dispatch (__val=-1, __mem=0x203d798)
  ↳ at /home/EB/sebastian_h/src/rtems-source-builder/rtems/build/sparc-
  ↳ rtems6-gcc-c72a1b6-newlib-ece49e4-x86_64-linux-gnu-1/build/sparc-
  ↳ rtems6/libstdc++-v3/include/ext/atomicity.h:84
7 #3  __gnu_cxx::__eh_atomic_dec (__count=0x203d798) at ../../gnu-
  ↳ mirror-gcc-c72a1b6/libstdc++-v3/libsupc++/eh_atomics.h:72
8 #4  __gxx_exception_cleanup (code=URC_FOREIGN_EXCEPTION_CAUGHT,
  ↳ exc=0x203d7d0) at ../../gnu-mirror-gcc-c72a1b6/libstdc++-v3/
  ↳ libsupc++/eh_throw.cc:46
9 #5  0x0201e584 in _Unwind_DeleteException (exc=0x203d7d0) at ../../
  ↳ gnu-mirror-gcc-c72a1b6/libgcc/unwind.inc:283
10 #6  0x02001a44 in foo_function () at ../../testsuites/samples/cdtest/
  ↳ main.cc:198
11 #7  main_task () at ../../testsuites/samples/cdtest/main.cc:212
12 #8  0x02006b8c in _Thread_Entry_adaptor_numeric (executing=0x2032ae8 <
  ↳ RTEMS_tasks_Objects>) at ../../cpukit/score/src/
  ↳ threadentryadaptornumeric.c:25
13 #9  0x02006c64 in _Thread_Handler () at ../../cpukit/score/src/

```

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```

14 ↪threadhandler.c:143
#10 0x02006c04 in _Thread_Handler () at ../../cpukit/score/src/
↪threadhandler.c:87

```

Author: Trac Migrate 2020-09-12T10:29:03.000Z

Replying to [Michael Davidsaver](#):

It's on exit from an `catch(...){` block. The actual hang appears to be a tight loop in the `__atomic_fetch_add_4` builtin. Specifically, these three instructions. `{{{ => 0x3f1780 <libat_fetch_add_4>: mov $0x5,%eax 0x3f1785 <libat_fetch_add_4+5>: mov %eax,0xc(%esp) 0x3f1789 <libat_fetch_add_4+9>: jmp 0x3f1780 <libat_fetch_add_4> }}}}`

From this code it is clear, that this is a libatomic configuration issue on i386. We have a recursive call here. We probably use instruction sets which are not really tested these days by someone else.

Author: Joel Sherrill 2020-09-12T14:54:58.000Z

The bug goes back to when gcc replaced `-mcpu=` with `-march=` and `-mtune=`. We used to generate code specifically compatible with and optimized for a CPU model. `-march` is now the compatibility level flag and `-mtune` is an optimization indication. We are generating i386 compatible code which is tuned based on say an i686 instruction weighting.

The multilib `-mtune` needs to change to `-march`.

Since `-march` is the first x86 option described, it is at the top of this page in the GCC manual:

<https://gcc.gnu.org/onlinedocs/gcc-7.5.0/gcc/x86-Options.html#x86-Options>

A quick search browsing `gcc/config/i386/t-*` shows RTEMS seems to be the only i386 target building multilibs which are cpu model based. Others use m32/m64 or other things.

Author: Trac Migrate 2020-09-18T21:36:49.000Z

Is there agreement on a path forward for this issue? Is it as simple as replacing 'mtune' with 'march' in `gcc/config/i386/t-rtems`? If so, who will do/test this? This change seems simple enough that I would just try it myself, but I'm not sure where/how to add a patch in the RSB recipes.

Author: Joel Sherrill 2020-09-18T21:53:00.000Z

I think that's the extent of the source changes which we think will resolve the issue. Someone may point to documentation but it is Friday and I am going to point to an example of adding a patch and talk you through it. This assumes the 5 branch

because we won't get a patch merged into gcc 7. We can address RTEMS master after 5 is fixed. The patch for gcc should be the same. We just have more latitude to merge it to gcc master and newer release branches.

How to generate a patch: <https://devel.rtems.org/wiki/Developer/Coding/GenerateAPatch> which should also be in the Software Engineering Guide.

The easiest example I saw was in `rtems/config/5/rtems-lm32.bset` which adds a gdb patch only for lm32 builds. You would be adding a gcc patch to `rtems/config/5/rtems-i386.bset`.

For merging, a patch needs an Internet home (attaching to a ticket gives you a URL) but for testing, you can just drop the diff into the patches subdirectory `config/rtems/patches`. The RSB will see it there and not try to fetch it. But you need an sha checksum.

After that, it is build as normal for testing purpose. If this gives you a toolset that works, we can address changing the URL. But attaching it to this ticket and getting the URL for the "raw" attachment should work just fine.

Author: Trac Migrate 2020-09-19T14:46:42.000Z

- Attachment [gcc-7.5.0-i386march-1.diff](#) added

Change gcc multiarch config to use -march

Author: Trac Migrate 2020-09-19T14:53:28.000Z

- Attachment [0001-patch-gcc-i386-multiarch.patch](#) added

Patch RSB to patch GCC

Author: Trac Migrate 2020-09-19T16:47:42.000Z

I've attached patches for GCC and RSB.

A successful test build: https://github.com/mdavidsaver/rsb/runs/1138090148?check_suite_focus=true#step:5:563

Author: Joel Sherrill 2020-09-19T17:49:16.000Z

Congratulations! Can you confirm you tested code compiled with the resulting toolchain and it solved the problem?

Author: Trac Migrate 2020-09-19T19:44:55.000Z

Ha. That would be a good thing to mention would it not? Yes, the `epicsTimeTest` now passes, and the `cdtest` completes as well (with `qemu*`). I am having a problem with another test, but this is almost certainly a separate issue.

- https://github.com/mdavidsaver/rsb/runs/1138090148?check_suite_focus=true#step:8:71

Author: Joel Sherrill 2020-09-21T19:43:58.000Z

- **Description** changed

```

1 Throwing a `std::runtime()` exception locks up.
2
3 The lock up is in the exception clean up handler where the exception_
  ↳ object is destructed. The destructor loops destructing the_
  ↳ std::string object. The path ends up in libstdc++-v3/include/ext/
  ↳ atomicity.h line 48 or __exchange_and_add.
4
5 At a guess it would seem like the C++ atomics on i386 is broken or_
  ↳ fragile.
6 +
7 + UPDATE: This was broken when gcc i386 eliminated -mcpu in favor of -
  ↳ march/-mtune. The multilibs were built with -mtune and not -march.
```

- **Milestone** changed from %"Indefinite" to %"5.2"

Author: Trac Migrate 2020-09-21T20:37:37.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"e3c3abe40309f47f3d024c6f2636d9682863a9e6/rtems-source-builder" e3c3abe/rtems-source-builder]:

```

1 patch gcc i386 multiarch
2
3 Add patch to change from mtune to march when building multilibs.
4 The mtune argument tunes or optimizes for a specific CPU model but
5 does not ensure the generated code is appropriate for the
6 CPU model. Prior to this patch, i386 compatible code was always
7 generated but tuned for later models.
8
9 Closes #2830.
```

Author: Trac Migrate 2020-09-21T21:14:32.000Z

In [changeset:"1ea1c9cdc56313e33abf39fce23a2ddf308ff5b3/rtems-source-builder" 1ea1c9c/rtems-source-builder]:

```

1 patch gcc i386 multiarch
2
3 Add patch to change from mtune to march when building multilibs.
4 The mtune argument tunes or optimizes for a specific CPU model but
5 does not ensure the generated code is appropriate for the
6 CPU model. Prior to this patch, i386 compatible code was always
```

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```

7 generated but tuned for later models.
8
9 This is the same fix as #2830 but applying to gcc 10.
10
11 Updates #4084.

```

3.1.1.81 4068 - arm: arm_cp15_set_translation_table_entries() should affect Inner Shareable domain

Id	4068
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-09-04T13:43:16.000Z
Updated	2020-09-17T06:38:20.000Z
Milestone	5.2
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4068
Merges	0

Original author: sebastian.huber

The arm_cp15_set_translation_table_entries() uses the wrong TLB maintenance operation in multi-processor systems.

Author: Trac Migrate 2020-09-17T06:38:20.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"20d82377a679e5207328943ff5d1b3ad253d1feb/rtems" 20d8237/rtems]:

```

1 arm: Fix arm_cp15_set_translation_table_entries()
2
3 In a multi-processor system we must broadcast the TLB maintenance_
4 ↪operation to
5 the Inner Shareable domain to ensure that the other processors update_
6 ↪their TLB
7 caches accordingly.
8
9 Close #4068.

```

3.1.1.82 4075 - POSIX Compliance Guide Missing Some math.h Methods

Id	4075
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2020-09-11T21:30:39.000Z
Updated	2020-09-14T18:30:42.000Z
Milestone	5.2
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4075
Merges	0

The following methods are provided as macros on top of compiler built-ins. They have been missed by previous reviews but have long been supported. The POSIX Compliance Guide for the 5 branch and master needs to be updated.

- `fpclassify()`
- `isfinite()`
- `isgreater()`
- `isgreaterequal()`
- `isless()`
- `islessequal()`
- `islessgreater()`
- `isnormal()`
- `isunordered()`
- `nexttowardf()`
- `signbit()`

Author: Trac Migrate 2020-09-14T18:29:42.000Z

- **Owner** set to Joel Sherrill <joel@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"6559511813957a2fce62a15cf5925cbb5f6eb06f/rtems-docs" 6559511/rtems-docs]:

```

1 Add missing <math.h> methods implemented as macros on compiler builtins.
2
3 These methods have long been provided and this change is needed on the
4 5.x branch and master.
5
6 Closes #4075.
```

Author: Trac Migrate 2020-09-14T18:30:42.000Z

In [changeset:"5642fe5d4b9f3755483c27eef5b91ee5f3d232e9/rtems-docs" 5642fe5/rtems-docs]:

```

1 Add missing <math.h> methods implemented as macros on compiler builtins.
2
3 These methods have long been provided and this change is needed on the
4 5.x branch and master.
5
6 Closes #4075.
```

3.1.1.83 4073 - libbsd: Back port ifmcstat command

Id	4073
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-09-10T11:27:43.000Z
Updated	2020-09-10T11:31:20.000Z
Milestone	5.2
Labels	libbsd, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4073
Merges	0

Original author: sebastian.huber

The ifmcstat command is a useful diagnostics command to track down issues with multicasts.

Author: Trac Migrate 2020-09-10T11:31:09.000Z

Original author: sebastian.huber

Integrated in 7f47f2784138109b8363804c2aecd3d83231ab0f.

Author: Trac Migrate 2020-09-10T11:31:20.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

3.1.1.84 3347 - tms570: Register Macro Redefinition

Id	3347
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-03-15T14:56:57.000Z
Updated	2018-10-15T06:45:51.000Z
Milestone	5.2
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtos/rtems/-/issues/3347
Merges	0

This looks like the same name was accidentally used. Without knowing the architecture, you can't know what was intended:

```
/home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/arm/tms570/include/bsp/ti_herc/reg_sys.h:164:0:
warning: "TMS570_SYS1_CDDIS_VCLKAOFF_SET" redefined /home/joel/rtems-work/rtems-
testing/rtems/rtems/bsps/arm/tms570/include/bsp/ti_herc/reg_sys.h:163:0:      warning:
"TMS570_SYS1_CDDIS_VCLKAOFF_GET"      redefined      /home/joel/rtems-work/rtems-
testing/rtems/rtems/bsps/arm/tms570/include/bsp/ti_herc/reg_sys.h:162:0:      warn-
ing:      "TMS570_SYS1_CDDIS_VCLKAOFF"      redefined      /home/joel/rtems-work/rtems-
testing/rtems/rtems/bsps/arm/tms570/include/bsp/ti_herc/reg_sys.h:146:0:      warning:
"TMS570_SYS1_CSDISCLR_CLRCLKSR_OFF_SET" redefined /home/joel/rtems-work/rtems-
testing/rtems/rtems/bsps/arm/tms570/include/bsp/ti_herc/reg_sys.h:145:0:      warning:
"TMS570_SYS1_CSDISCLR_CLRCLKSR_OFF_GET" redefined /home/joel/rtems-work/rtems-
testing/rtems/rtems/bsps/arm/tms570/include/bsp/ti_herc/reg_sys.h:144:0:      warning:
"TMS570_SYS1_CSDISCLR_CLRCLKSR_OFF"      redefined      /home/joel/rtems-work/rtems-
testing/rtems/rtems/bsps/arm/tms570/include/bsp/ti_herc/reg_sys.h:134:0:      warning:
"TMS570_SYS1_CSDISSET_SETCLKSR_OFF_SET" redefined /home/joel/rtems-work/rtems-
testing/rtems/rtems/bsps/arm/tms570/include/bsp/ti_herc/reg_sys.h:133:0:      warning:
"TMS570_SYS1_CSDISSET_SETCLKSR_OFF_GET" redefined /home/joel/rtems-work/rtems-
testing/rtems/rtems/bsps/arm/tms570/include/bsp/ti_herc/reg_sys.h:132:0:      warning:
"TMS570_SYS1_CSDISSET_SETCLKSR_OFF"      redefined      /home/joel/rtems-work/rtems-
testing/rtems/rtems/bsps/arm/tms570/include/bsp/ti_herc/reg_sys.h:122:0:      warn-
ing:      "TMS570_SYS1_CSDIS_CLKSROFF_SET" redefined /home/joel/rtems-work/rtems-
testing/rtems/rtems/bsps/arm/tms570/include/bsp/ti_herc/reg_sys.h:121:0:      warn-
ing:      "TMS570_SYS1_CSDIS_CLKSROFF_GET" redefined /home/joel/rtems-work/rtems-
testing/rtems/rtems/bsps/arm/tms570/include/bsp/ti_herc/reg_sys.h:120:0:      warning:
"TMS570_SYS1_CSDIS_CLKSROFF" redefined
```

Author: Joel Sherrill 2018-03-15T14:57:13.000Z

- **Owner** set to ppisa
- **Status** changed from *new* to *assigned*

Author: Joel Sherrill 2018-10-13T22:51:07.000Z

- **Milestone** changed from %”5.1” to %”5.2”

Author: Trac Migrate 2018-10-15T06:45:51.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”1822649ced3c77eb0eb96a5fda93cd9faa97db85/rtems”
1822649/rtems]:

```
1 bsp/tms570: Simple fix to resolve macro redefinitions.  
2  
3 closes #3347
```

RTEMS 5.1

4.1 RTEMS / Programs / Google Summer of Code

Go to *Issues* (page 472) or `rtems/programs/gsoc-merges`

Issues Summary

27 - Run-Time Tracing (page 472)

Merge Requests Summary

4.1.1 Issues

4.1.1.1 27 - Run-Time Tracing

Id	27
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-05-31T12:51:04.000Z
Updated	2025-09-19T01:32:49.003Z
Milestone	5.1
Labels	gsoc, gsoc::large, old-indefinite, priority::normal, resolution::wontfix, tickettype::project, tool, version::5
Link	https://gitlab.rtems.org/rtems/programs/gsoc/-/issues/27
Merges	0

Original author: Spencer

CTF integration

CTF is really neat and brings to RTEMS a range of features we really need. The format is good and applicable to RTEMS and the post processing and real-time monitoring tools are valuable.

The CTF has a range of tools and parts and this task is to bring those together and into the RTEMS Trace Linker. The goal is to encapsulate what is needed to use CTF and what it provides with the functionality of the RTEMS Trace Linker to build an application for a user that uses CTF. The `rtems-tld` tool knows about RTEMS and function signatures (see task 1) and it can be taught to internally invoke the CTF tools to create a required configuration files and target code to integrate with the CTF post processing tools. Being able to use the Capture Engine is considered an advantage.

A key part is **barectf**. This accepts a YAML configuration and generates suitable C code for integration into the application. This tool can be wrapped inside the `rtems-tld` and used transparently to the user. The `rtems-tld` can build any **barectf** generated code for a target because it already knows the compiler and flags required by the target. The user's code is wrapped by the GNU ld and that creates the dependencies to the `rtems-tld` generated code and in turn to the **barectf** generated code. No user code is touched at the source or even the object file level and this is an important requirement.

What follow is mostly guess work on my part and needs to be clarified, corrected and cleaned up as we learn more. I base what is written on the current wrapping of trace calls is controlled by `rtems-tld` and so it can generate the `barectf` configuration file. The `barectf` generated code takes in the trace data and returns CTF format records suitable for buffering. The Capture Engine is used because it provides safe concurrent buffering of data. The project is bring all this together.

The task can be divided up into:

1. Investigate how `barectf` works and what code is generated.
2. Determine how the trace wrapped calls created by `rtems-tld` integrate to the `barectf` trace support. I suspect this is a matter of assigning event ids in the `barectf` configuration file to match the `rtems-tld` generated ids.
3. Create an `rtems-tld` generator to generate C code to bind to the `barectf` calls.
4. Integrate the `barectf` output support to the Capture Engine so it performs the buffering. This assumes the `barectf` code generated is sequential and event processing is sequential and contains no code to update global variables. The concurrent activity is the buffering and this is handled by the Capture Engine.
5. Determine how to add extra special features such as CPU number.

The final part of this task is transport to the host machine. How this happens has not been determined yet and is open to suggestions and innovation.

Author: Amar Takhar 2024-04-26T01:34:32.746Z

assigned to @tracmigrate

Author: Chris Johns 2017-06-01T02:45:00.000Z

Original author: Spencer

Excellent write up.

The capture engine has buffering support as well as filtering and triggering support to limit the data captured and to focus the trace to the specific area of interest. Is filtering and triggering handled by `barectf` and the YAML config file?

The idea for the transport is to have a function call handler struct that is registered for each transport, ie a transport API. What the struct looks like and so the needed calls is unknown and I feel will be defined more and more over time. The simplest transport is a buffer in memory that can be written to a file when the trace run has finished. It would be nice to have a transport framework even if the detail is limited to simplest case.

Author: Gedare Bloom 2022-02-03T20:16:59.000Z

Original author: Spencer

Current state of tracing needs to be found out, and then project can be scoped appropriately.

Author: Gedare Bloom 2022-02-25T18:54:49.000Z

Original author: Spencer

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

This project is superseded by others such as Capture Engine and Trace Compass.

Author: Amar Takhar 2024-04-25T20:45:45.267Z

changed the description

4.2 RTEMS / RTOS / RTEMS

Go to [Issues](#) (page 494) or [Merge Requests](#) (page 320)

Issues Summary

5188 - Backport 5.4: *bsps/shared: NS16550 driver updates the line control register during operation* (page 494)
 4940 - Fix cache support for ARM926EJ-S processor (page 611)
 4914 - libbsd/ipsec-tools: Problems with more than 64 open files (cloned) (page 612)
 4692 - Python 3.8 introduces new warning about using operator “is” with a literal (page 613)
 4678 - System initialization time increased compared to RTEMS 4.11 (page 614)
 4676 - incorrect handling of “inactive_per_block” from “Objects_Information” structure (page 618)
 4669 - clock_nanosleep() uses the wrong clock to determine the start time point (page 621)
 4660 - Spike failing to build with RSB 5 on Ubuntu 21.04 (page 623)
 4654 - pfctl: Fix global state initialization (cloned) (page 625)
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Merge Requests Summary

4.2.1 Issues

4.2.1.1 3789 - TMS570 applciation build error

Id	3789
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-08-23T08:47:26.000Z
Updated	2025-09-19T01:45:42.320Z
Milestone	5.1
Labels	arch:arm, bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3789
Merges	0

Original author: andy89.org

expected behaviour

Build without errors and without runtime errors

undesired behaviour

bsp_start_hook_0_done is undefined CPACR Register is not setup

target hardware

Hercules Safety MCU development Kit TMS570 MCU

toolchain version

Modified GCC, binutils and gdb build script to build armeb compiler build with RTEMS Source Builder master(see patches for RTEMS Soucre Builder) I need a ARM Compiler with Big Endian Support as default for TMS570.

configuration options for bsp

```
../rtems/configure --prefix=[bsp path]/bsp/armeb-rtems5 --host=arm-rtems5
--target=arm-rtems5 --enable-posix --enable-rtems-debug --disable-tests --disable-
networking --enable-rtemsbsp=tms570ls3137_hdk --CC_FOR_TARGET=armeb-
rtems5-gcc --CXX_FOR_TARGET=armeb-rtem5-gcc --AR=armeb-rtems5-ar
--TMS570_USE_HWINIT_STARTUP=1
```

Test on master commit RTEMS (4a9a58ea8ad75248af5876c01ef654f9bc59c312)

Bug Fix

define simbol bsp_start_hook_0_done in start.S add if defined(__ARM_ARCH_7R__) see patches

Author: Trac Migrate 2019-08-23T08:51:44.000Z

Original author: andy89.org

I can't upload Attachments the patches and files can be found under: <https://www.cs.hs-rm.de/~werner/rtems/bugreport/>

Author: Trac Migrate 2019-08-26T05:57:34.000Z

Original author: andy89.org

- **Milestone** set to %"5.1"
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*

The problem is triggered by the TMS570_USE_HWINIT_STARTUP=1 BSP option. In bspstarthooks-hwinit.c we have:

```
1 #if 1
2 /*
3  * Do not depend on link register to be restored to
4  * correct value from stack. If TCRAM self test is enabled
5  * the all stack content is zeroed there.
6  */
7 bsp_start_hook_0_done();
8 #endif
```

Leading to:

```
1 bsp/arm/tms570/start/bspstarthooks-hwinit.c:375: undefined reference_
  ↳ to `bsp_start_hook_0_done'
```

Author: Trac Migrate 2019-12-19T10:00:52.000Z

Original author: andy89.org

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"2497da06de6f35ccd4a08ff3942a67b9ef972a70/rtems" 2497da06/rtems]:

```
1 bsp/arm: Export bsp_start_hook_0_done
2
3 Close #3789.
```

Author: Chris Johns 2025-09-19T01:45:42.286Z

mentioned in issue [#3790](#)

4.2.1.2 2754 - no .strtab section

Id	2754
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2016-07-11T00:11:57.000Z
Updated	2025-09-19T01:36:03.596Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2754
Merges	0

Original author: pggauvin

dlopen on the object generated by libfoo.cpp in the attached test case fails and results in the error no .strtab section. readelf shows that the section is present, though:

```

1 readelf -S libfoo.o | grep strtab
2 (standard input):97: [92] .shstrtab          STRTAB          00000000 001fb0
   ↪00040c 00          0  0  1
3 (standard input):99: [94] .strtab           STRTAB          00000000 0018b0
   ↪00019e 00          0  0  1

```

Steps to Reproduce (you may have to edit BSP_DIR in the Makefile):

```

1 make clean all
2 qemu-system-arm -m 256M -M xilinx-zynq-a9 -serial null -serial mon:stdio \
3 -nographic -no-reboot -kernel libdl-strtab-test.exe

```

Expected Output:

```

1 TEST BEGIN
2 dlopen: no .strtab section
3 assertion "handle != NULL" failed: file "libdl-strtab-test.c", line 46, function:
   ↪POSIX_Init

```

Development Environment: * **RTEMS Version:** 4.11 (Branch “4.11”, commit 3f72dda6ee518d3ea04341ad4df079ecb1895ef7) with the dlerror patches from [#2747](#), and the attached ARM PREL31 support patch (I will be making a separate ticket for this with test code soon). * **System Type:** ARM Cortex-A9, xilinx_zynq_a9_qemu BSP * **GCC Version:**

arm-rtems4.11-gcc (GCC) 4.9.3 20150626 (RTEMS 4.11, RSB 1675a733536d1aec2020011e5e522497a442561a (HEAD, origin/4.11, 4.11), Newlib 2.2.0.20150423) * **RTEMS Configure Options:**

```
-target=arm-rtems4.11 -enable-rtemsbsp="xilinx_zynq_a9_qemu xilinx_zynq_zedboard
xilinx_zynq_csp_cots xilinx_zynq_csp_hybrid" -enable-tests=samples -enable-posix -pre-
fix=$HOME/development/rtems/4.11 -disable-networking
```

- [libdl-prel31-arm.patch](#)
- [libdl-strtab-test.tar.gz](#)
- [rtems-libdl-obj-cache-disable.patch](#)

Author: Trac Migrate 2016-07-11T00:12:28.000Z

Original author: pggauvin

- **Attachment** [libdl-prel31-arm.patch](#) added

Author: Trac Migrate 2016-07-20T20:17:07.000Z

Original author: pggauvin

- **Attachment** [libdl-strtab-test.tar.gz](#) added

fixed linking and made sure all symbols resolved

Author: Trac Migrate 2016-07-20T20:17:38.000Z

Original author: pggauvin

- **Attachment** [rtems-libdl-obj-cache-disable.patch](#) added

workaround for this issue

Author: Trac Migrate 2016-07-20T20:26:35.000Z

Original author: pggauvin

I've narrowed down the problem to a corrupted section name for .strtab being retrieved by `rtems_rtl_obj_cache_read` in `rtems_rtl_elf_parse_sections`. The offset to the name in the file was correct, but garbage was returned. The attached patch effectively disables the caching functionality of `rtems_rtl_obj_cache_read`, allowing the test to load the object successfully and generate this output:

```
1 TEST BEGIN
2 dlopen:
3 TEST END
```

Author: Chris Johns 2016-08-12T09:31:12.000Z

Original author: pggauvin

Is this to be fixed on the 4.11 branch as well?

Author: Joel Sherrill 2016-08-12T15:58:59.000Z

Original author: pggauvin

Patrick should answer from their perspective. But I think it should.

But from what I know of Patrick's application, we would strongly encourage them to move to the master to get greater stability on the SMP and maturity on rtems-libbsd.

Author: Trac Migrate 2016-08-13T18:07:54.000Z

Original author: pggauvin

[comment:2 chrisj]:

Is this to be fixed on the 4.11 branch as well?

It is desirable, especially if the patches for master don't apply cleanly to 4.11.

[comment:3 joel.sherrill]:

Patrick should answer from their perspective. But I think it should. But from what I know of Patrick's application, we would strongly encourage them to move to the master to get greater stability on the SMP and maturity on rtems-libbsd.

This project is likely locked to 4.11, but I will recommend it.

Author: Trac Migrate 2016-08-15T08:09:16.000Z

Original author: pggauvin

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 35edf82463f33d30e6bbbbbbafe3aadd80acffbb:

libdl: Fix cache corruption bugs. This patch fixes a number of bugs in the cache when requests are made to read close to the end of the file and the data is copied from the top of the cache buffer to the bottom of the buffer. This was compounded by attempting to read past the end of the file. Closes [#2754](#).

Author: Chris Johns 2017-03-27T06:50:20.000Z

Original author: pggauvin

- **Milestone** set to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: pggauvin

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Chris Johns 2025-09-19T01:36:03.555Z

mentioned in issue [#2767](#)

4.2.1.3 3426 - Babeltrace formula for conversion to CTF

Id	3426
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-05-09T03:33:28.000Z
Updated	2025-09-19T01:32:53.786Z
Milestone	5.1
Labels	priority::normal, resolution::wontfix, tickettype::project, tickettype::task, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3426
Merges	0

Original author: VidushiVashishth

Write a description for setting up the CTF infrastructure. Add examples of conversion from custom format to common trace format.

Author: Trac Migrate 2019-02-19T09:19:51.000Z

Original author: VidushiVashishth

- **Resolution** set to ~”wontfix”
- **Status** changed from *assigned* to *closed*

Author: Chris Johns 2025-09-19T01:32:53.847Z

changed the description

4.2.1.4 3391 - or1k TLS and GCC version

Id	3391
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-04-12T14:58:05.000Z
Updated	2025-09-19T01:32:53.658Z
Milestone	5.1
Labels	arch:or1k, old-indefinite, priority::normal, resolution::fixed, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3391
Merges	0

As of today, or1k is using gcc 4.9.x and it does not compile the TLS tests because it doesn't have the `thread_local` keyword.

This ticket is to track that I have disabled the tls tests for the or1k BSP and they need to be re-enabled when the or1k gcc is updated.

Author: Trac Migrate 2018-11-29T22:46:48.000Z

- **Owner** set to Joel Sherrill <joel@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"e447d4c0dd343271d664829fe272efe15e122131/rtems" e447d4c0/rtems]:

```

1 generic_or1k-testsuite.tcfg: Enable sptls01 now that GCC is from FSF.
  ↪ master
2
3 Closes #3391.
```

Author: Amar Takhar 2025-09-05T03:01:10.629Z

changed the description

4.2.1.5 3373 - add confstr() method

Id	3373
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-03-26T22:48:46.000Z
Updated	2025-09-19T01:32:53.531Z
Milestone	5.1
Labels	api::posix, old-indefinite, posix::compliance, priority::low, resolution::fixed, rtems::score, tickettype::defect, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3373
Merges	0

Original author: jeff.mayes

See: <http://pubs.opengroup.org/onlinepubs/9699919799/functions/confstr.html> and <http://pubs.opengroup.org/onlinepubs/9699919799/basedefs/unistd.h.html>

Based on the current Issue 7 description of confstr(), the FreeBSD implementation should be **used as a guide but not directly merged** into rtems-libbsd.

<https://github.com/udp/freebsd-libc/blob/master/gen/confstr.c>

The implementation needs to be in RTEMS itself and specific to RTEMS. It can be based on the FreeBSD version but we have to be confident that it accurately reflects the RTEMS capabilities.

This method is required by the FACE General Purpose Profile.

Author: Trac Migrate 2018-03-26T22:51:41.000Z

Original author: jeff.mayes

- **Summary** changed from *add test suites for confstr* to *add test suites for confstr method*
- **Version** ~"5" deleted

Author: Joel Sherrill 2018-03-27T14:56:07.000Z

Original author: jeff.mayes

- **Description** changed

```

1 - See: http://pubs.opengroup.org/onlinepubs/7908799/xsh/confstr.html
2 + See: http://pubs.opengroup.org/onlinepubs/9699919799/functions/
  ↪ confstr.html and http://pubs.opengroup.org/onlinepubs/9699919799/
  ↪ basedefs/unistd.h.html
3 +
4 +

```

- **Summary** changed from *add testsuites for confstr method* to *add confstr() method*

Author: Joel Sherrill 2020-03-30T14:21:55.000Z

Original author: jeff.mayes

- **Description** changed

```
1 See: http://pubs.opengroup.org/onlinepubs/9699919799/functions/confstr.
   ↳ html and http://pubs.opengroup.org/onlinepubs/9699919799/basedefs/
   ↳ unistd.h.html
2
3 + Based on the current Issue 7 description of confstr(), the FreeBSD_
   ↳ implementation should be merged into rtems-libbsd.
4
5 + https://github.com/udp/freebsd-libc/blob/master/gen/confstr.c
6 +
7 + This method is required by the FACE General Purpose Profile.
8 +
```

Author: Joel Sherrill 2020-03-30T17:41:53.000Z

Original author: jeff.mayes

- **Description** changed

```

1 See: http://pubs.opengroup.org/onlinepubs/9699919799/functions/confstr.
   ↳ html and http://pubs.opengroup.org/onlinepubs/9699919799/basedefs/
   ↳ unistd.h.html
2
3 - Based on the current Issue 7 description of confstr(), the FreeBSD_
   ↳ implementation should be merged into rtems-libbsd.
4 + Based on the current Issue 7 description of confstr(), the FreeBSD_
   ↳ implementation should be used as a guide but not directly merged_
   ↳ into rtems-libbsd.
5 ?
   ↳
   ↳ ++++++
   ↳ ++
6
7
8 https://github.com/udp/freebsd-libc/blob/master/gen/confstr.c
9
10 + The implementation needs to be in RTEMS itself and specific to RTEMS._
   ↳ It can be based on the FreeBSD version but we have to be confident_
   ↳ that it accurately reflects the RTEMS capabilities.
11 +
12 This method is required by the FACE General Purpose Profile.

```

Author: Trac Migrate 2021-08-18T14:26:29.000Z

Original author: jeff.mayes

- **Owner** set to Eshan dhawan <eshandhawan51@gmail.com>
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In [changeset:”574cd83b5dc1a6c5c6d215c5c07434afa0e73ce4/rtems”574cd83/rtems]:

```
1 confstr() support for RTEMS
2
3 Closes #3373
4
5 confstr() style update
6
7 Signed-off-by: Eshan Dhawan <eshandhawan51@gmail.com>
```

Author: Trac Migrate 2021-08-30T17:31:14.000Z

Original author: jeff.mayes

In [changeset:”b0f13f3778cc5192a4c89fab576b21a9140b3dc5/rtems”b0f13f3/rtems]:

```
1 psxtests/psxconfstr: Fix test case
2
3 Update #3373.
```

Author: Amar Takhar 2024-04-25T20:46:14.310Z

changed the description

4.2.1.6 3351 - libbsd: Introduce buildsets that allow to enable or disable parts of libbsd to get for example smaller or faster configurations.

Id	3351
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-03-16T08:10:50.000Z
Updated	2025-09-19T01:32:53.416Z
Milestone	5.1
Labels	libbsd, library::libbsd, old-indefinite, priority::normal, resolution::fixed, tickettype::enhancement, tool::waf, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3351
Merges	0

Original author: Christian Mauderer

I'll start in the next few days to add IPsec (client) support to the libbsd. Because IPsec is quite deeply integrated into some parts of the network stack it would have quite a performance impact on every system and not only the ones using IPsec. Therefore it is necessary to compile this support only conditionally.

From my point of view that means that the build system needs two new capabilities:

1. For IPsec the whole stack has to be compiled with certain defines. If I understood the FreeBSD build system correctly these defines would be set via generated header files. In RTEMS we have static files for that (like `rtemsbsd/include/rtems/bsd/local/opt_inet6.h`). I see two possibilities: a. Generate the headers depending on a configure option. b. Use empty headers like we already do it for a lot of options. Depending on a configure option then add a `'DSOME_OPT=1'` to the modules that need it. That one would be my preferred way.
2. IPsec adds a number of source files that most likely only work if the rest of the stack is compiled with the correct configuration. We already have modules in the `libbsd.py`. But currently they are added or removed by commenting the matching line in `libbsd.py`. My approach would be to make it possible to enable or disable the modules depending on a command line switch during configure.

I'm open for any suggestions regarding better solutions.

Author: Chris Johns 2018-03-19T08:57:53.000Z

Original author: Christian Mauderer

Do we have a single build which creates variant libraries and a user selects which variant they want or do we have a single library built for a specific purpose?

I feel building variant libraries is better solution because every build by a developer checks all variants, and it aids deployment because you do not have users needing to manage specific build instances.

If we can establish how we want to package libbsd in light of this change and the need to have a difference the details will be must easier to manage.

Author: Trac Migrate 2018-03-19T09:39:54.000Z

Original author: Christian Mauderer

If we build multiple variants in one go we might have a lot of different variants soon because every option would double the variants.

The IPsec is one option but we already had an application where we disabled IPv6 for one specific use case due to size reasons. Another option could be WiFi or no WiFi (which adds quite some code which isn't used by many applications). So it would be already eight different versions.

My long-time direction would be to provide options via a configuration file (for example some ini). With that it would be possible to use different default configuration for some BSPs (for example the ones with / without WiFi). A user could provide his own config that matches his application. I still have to have a more detailed look over the option parser used in waf but I would expect that it can be somehow convinced to read options via a file too.

Author: Trac Migrate 2018-03-19T13:14:23.000Z

Original author: Christian Mauderer

Just noted: A partial support for setting defines via a waf-option is already there: The `--freebsd-option` switch for the waf configure call. That one can already set a define. Most likely it would be useful to extend or replace that.

Author: Chris Johns 2018-03-20T02:00:14.000Z

Original author: Christian Mauderer

Replying to [Christian Mauderer](#):

If we build multiple variants in one go we might have a lot of different variants soon because every option would double the variants.

Yes. A way to configure and build does not diminish the obligation on all developers making changes to build all possible variants or at least an agreed number. Over the years we have added options to RTEMS's configure and has become a problem. If you add on to the possible configure options the possible BSP_OPTS we have something we can never ever test build not even once. I am attempting to control the issue with the `rtems-bsp-builder` and it's 1600+ lines of Python. If you review a recent build from Joel (1) you will see the minimal set of 13 build variants I could come up with generates over 1500 build jobs or separate builds of RTEMS. I would like to avoid this as much as possible but recognize it is difficult or impossible to do without limiting the features we want.

- (1) <https://lists.rtems.org/pipermail/build/2018-March/000553.html>

The IPsec is one option but we already had an application where we disabled IPv6 for one specific use case due to size reasons. Another option could be WiFi or no WiFi (which adds quite some code which isn't used by many applications). So it would be already eight different versions.

Yes, and while we have used options for this I feel that method may not scale. It has been useful up to now but I think we need to consider something else.

My long-time direction would be to provide options via a configuration file (for example some ini). With that it would be possible to use different default configuration for some BSPs (for example the ones with / without WiFi). A user could provide his own config that matches his application. I still have to have a more detailed look over the option parser used in waf but I would expect that it can be somehow convinced to read options via a file too.

I would prefer this be a near-term direction and we develop Python code and support so we can define a set of agreed “variant builds” . I see a “variant” consisting of compile options, ie -Os etc, specific defines and specific sets of files. The base build would be a bare stack, for example no IPv6, SSL, etc, and an IPV6 with SSL would be IPV6-SSL = base + IPV6 + SSL.

I am OK with INI files because it is built into Python. YAML would be nice but it requires extra host packages and that creates user support issues. Please take a look at `tester/rt/check.py` and `rtemstoolkit/configuration.py` in the `rtems-tools` repo. It is fine to copy down to this project the configuration file support from the `rtemstoolkit`.

I think it would be best to leave `libbsd.py` as it is for now. I would like to move that configuration to an INI format and remove the intermediate step of generating `libbsd_waf.py`. There is no real need to generate the file other than the former support of Makefile builds. This means we work on a top level INI design and we can flesh out the migration from `libbsd.py` later. The `rtemstoolkit/configuration.py` supports includes which allows a tree structure to be formed letting us clip below the needed file sets when that change happens.

The key requirement I would like to have is being able to configuring a build for `libbsd` that builds all variants we agree are important before submitting a patch. I do not want to have to write another `rtems-bsp-builder`, I would like that functionality built in.

Author: Trac Migrate 2018-03-20T09:37:37.000Z

Original author: Christian Mauderer

Thanks for the input. Let me summarize how I understood you.

1. We try to find an officially supported set of build variants for the library. That list should ideally not grow to more than 20 to 30 variants over time. At the moment I would see the following three (of course we can discuss the exact variants but maybe we should keep that for later (see also note at the end regarding SSL and WiFi)): * Size optimized with about the same functions as the classic stack: no IPv6, no IPsec, maybe no <something else>; -Os * Normal functionality that should cover most use cases: basically everything that is available now; -O2 * IPsec: Normal + IPsec; -O2 * Debug build: Everything; -Og or -O0

2. We want to use ini files for configuring the variants.

3. The system should be build in a way that if the user really wants to build an unsupported variant, he can use some own configuration file.

If that's what you meant I would be OK with this direction. Otherwise please correct me.

Now some more guesswork about the implementation:

4. The top configuration files would include the following information: * The modules to include into the build. That would replace the part that is currently done in `libbsd.py` in the `def sources(mm)` with the `mm.addModule(...)` lines. * Extra compiler flags (like `-DINET6` or `-Og`) that should be added to the ones already used for the modules. Some of them would have to be removed from the modules and put here instead (`INET6, ...`)

5. Later the rest of the `libbsd.py` should be migrated to a ini too. But that is not necessarily in the scope of this ticket.

6. When I'm already busy with changing the build process, it would be good to remove the generated `libbsd_waf.py` completely (which most likely needs quite some thought).

Is that about what you have thought?

How should we deliver the variants? Install them all and tell the user to use `-lbsd_small` or `-lbsd_ipsec` when he links?

Note for the build variants:

Regarding SSL: I hope that this does not influence how other code is built in `libbsd`. So it should be OK to put it into the base set. It would be only linked in if some application uses it. Of course the installed headers might have an influence on the user application.

Regarding WiFi: Maybe it's possible to deactivate it by default without an extra build variant. I have already removed quite some big parts by re-defining mainly the `_bsd_ifconfig_ieee80211_ctor()` as an empty function. If that doesn't work another variant might could be useful.

Author: Chris Johns 2018-03-22T23:46:18.000Z

Original author: Christian Mauderer

Nice summary, thank you.

Yes to 1, 2, and 3. The variants will evolve and I suspect will be driven by user demands. Your initial list is really nice. I really like the first one as an easy step for those migrating from the legacy stack.

I think the 4, 5, and 6 sum up what I was thinking. I am currently swinging between the build details being in an INI file or in a waf script and so Python. I am concerned moving all the build to INI format creates a new build system based on INI files which I would consider a mistake. The configuration management of the parts can be an INI file.

I will take a look at moving the current build to just waf and to remove the generate stage and then report back on how this looks and what I find. I feel time invested in

doing this will benefit how we proceed.

Author: Chris Johns 2018-03-23T06:02:50.000Z

Original author: Christian Mauderer

Should libbsd.py we split up into multiple files?

Author: Chris Johns 2018-03-23T06:52:11.000Z

Original author: Christian Mauderer

I think the simplest solution is to:

1. Leave libbsd.py as is for now. I feel this file can be split into parts after an initial refactoring has been completed.
2. Create waf_libbsd.py which is a copy of libbsd_waf.py and convert all the `self.add('')` calls into actual code. I think `freebsd-to-rtems.py` can use the `builder.py` base class because all it needs to call is `processSource()` which is all in `builder.py`.
3. Add class methods to match the required waf functions: a. `init` b. `options` c. `bsp_configure` d. `configure` e. `build`
4. Update `wscript` to create a `Modules` instance and hold globally. It then uses it for each of its calls.
5. Update `freebsd-to-rtems.py` to use `waf_libbsd.py` and remove the generate code.

This conversion is not too difficult. The INI configuration support can be built on top of this. The result is:

- a. List of modules to build
- b. Defines
- c. Compile flags

Author: Trac Migrate 2018-03-23T07:07:16.000Z

Original author: Christian Mauderer

Thanks for the feedback. I had a look at that yesterday and had a similar course of action in mind. Good to know that you have about the same idea about it. Also I didn't expect that on my initial estimation for that work, removing the generated script will simplify the task a lot so I agree that it is a good idea. It will also make it simpler to understand the build system for anyone looking at it and future adaptations will be easier.

Author: Chris Johns 2018-03-26T01:44:57.000Z

Original author: Christian Mauderer

I have posted a patch to devel for review. It has a couple of issues:

1. No changes to libbsd.txt
2. The headers need to all be parse for @CPU@ as bld.env['RTEMS_CPU'] was taken out and replaced with @CPU@.

If you are happy with the direction I can clean up these two issues and push to master.

Note, I have moved a range of configuration pieces from builder.py to waf_libbsd.py._defaults to form the basis of the configuration data. After loading the configuration is updated to reflect the variant being built.

The next step is to add a module level enable control and to default it to True then un-comment the modules which are commented defaulting them to disabled. This will give us 2 more entries in the configuration dict, modules and modules-enabled and by default modules-enabled is copied to modules-build and that list is the modules to build. If we add 'archive-name' and defines you are close to supporting build variants. It becomes a simple matter of looping over a config creating a 'builder' instance for each variant to build a number of variants. All this is done before the first build job is run.

Author: Chris Johns 2018-03-26T03:06:15.000Z

Original author: Christian Mauderer

Enable control requires all the functions in libbsd.py are converted to classes.

Author: Trac Migrate 2018-03-26T08:17:14.000Z

Original author: Christian Mauderer

Thanks for the work. I had started with a similar patch on Friday and most likely would have posted a first version today if you wouldn't have been faster. So I'm quite OK with that direction. I'll take a more detailed look at your patches and write some more feedback on the mailing list in a few hours.

Author: Trac Migrate 2018-04-10T07:07:54.000Z

Original author: Christian Mauderer

In [changeset:"854427bec4dce5cf7a88eb68a806d64f89da99dc/rtems-libbsd" 854427b/rtems-libbsd]:

```
1 waf: Add configurations with different modules.
2
3 Update #3351
```

Author: Trac Migrate 2018-04-27T11:47:21.000Z

Original author: Christian Mauderer

- **Summary** changed from *libbsd: Add support for conditional compilation of modules and compiler flags* to *libbsd: Introduce buildsets that allow to enable or disable parts of libbsd to get for example smaller or faster configurations*.

To make things more user friendly I dropped the original intent to allow to set the compiler flags with the configuration. Otherwise a user would have to know that he has to drop for example the `netinet6` module `_and_` remove the `INET6` compiler flag.

Instead, I now generate a header file that has defines for all enabled modules. That also allows to (for example) simply switch off the constructor for `wifi` in `ifconfig`. Without the header, it would have been necessary to enable a “`no_wifi`” module that provides an empty implementation of that constructor when the `wifi`-modules are disabled.

Author: Trac Migrate 2018-05-03T05:22:14.000Z

Original author: Christian Mauderer

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

This is now completed with <https://git.rtems.org/rtems-libbsd/commit/?id=338f3005fc420b2c26f597ae6c0754f391c9fcca>

Author: Trac Migrate 2018-06-05T08:00:35.000Z

Original author: Christian Mauderer

In [changeset:”f8cf0746b3fc6d7732369e39ee9de89bfefdb7b1/rtems-libbsd”f8cf074/rtems-libbsd]:

```
1 beagle: Disable WiFi if libbsd is build without it.
2
3 Update #3351.
```

Author: Amar Takhar 2024-04-25T20:46:11.610Z

changed the description

4.2.1.7 3165 - Rework components of the ticket system

Id	3165
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Closed by	Kinsey Moore
Created	2017-10-04T16:23:01.000Z
Closed	2025-01-31T16:22:26.954Z
Updated	2025-09-19T01:32:53.303Z
Milestone	5.1
Labels	old-indefinite, priority::normal, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3165
Merges	0

Original author: sebastian.huber

A look at

<https://devel.rtems.org/milestone/4.12.0>

reveals that the components are not a big help to get an overview of the tickets since they cluster in the two components General and cpukit.

I would like to replace the existing components with:

- build
- bsps
- config
- dev
- dev/i2c
- dev/serial
- dev/spi
- doc
- fs
- fs/fat
- fs/jaffs2
- fs/rfs
- lib
- lib/block
- lib/dl
- network
- network/legacy

- network/libbsd
- posix
- rtems
- score
- shell
- arch/arm
- arch/bfin
- arch/epiphany
- arch/i386
- arch/lm32
- arch/m32c
- arch/m68k
- arch/mips
- arch/moxie
- arch/nios2
- arch/or1k
- arch/powerpc
- arch/sh
- arch/sparc
- arch/sparc64
- arch/v850
- tool
- tool/binutils
- tool/gcc
- tool/gdb
- tool/newlib
- tool/rsb
- tool/tools
- tool/trac
- tool/website
- unspecified

With the following initial mapping:

- Ada -> tool/gcc
- Autoconf -> build

- Automake -> build
- Bare -> unspecified
- Binutils -> tool/binutils
- Code -> unspecified
- CrossRPM -> unspecified
- Documentation -> doc
- GCC -> tool/gcc
- GDB -> tool/gdb
- General -> unspecified
- MinGW -> tool/rsb
- Minimum Version Checks -> unspecified
- Newlib -> tool/newlib
- Other -> unspecified
- RSB -> tool/rsb
- RTEMS Configuration -> config
- SMP -> unspecified
- admin -> unspecified
- bsps -> bsps
- build -> build
- cpukit -> unspecified
- doc -> doc
- filesystem -> fs
- libbsd -> network/libbsd
- libcpu -> unspecified
- libdl -> lib/dl
- misc -> unspecified
- networking -> network/legacy
- patch - do not use -> unspecified
- pending -> unspecified
- pppd -> network/legacy
- shell -> shell
- testing -> unspecified
- tools -> tool
- web -> tool/website

Author: Amar Takhar 2017-10-04T16:26:14.000Z

Original author: sebastian.huber

FYI it's possible for us to create custom ticket fields which may be a nice place to put 'target'.

Author: Chris Johns 2017-10-04T23:50:53.000Z

Original author: sebastian.huber

Replying to **Amar Takhar**:

FYI it's possible for us to create custom ticket fields which may be a nice place to put 'target'.

What do you mean by target, a BSP or something else?

Author: Trac Migrate 2017-10-05T04:59:57.000Z

Original author: sebastian.huber

Ok, "target" alone makes probably no sense. The "target/X" should catch anything which is related to a particular target architecture, e.g. CPU port and BSPs.

Author: Chris Johns 2017-10-05T05:20:02.000Z

Original author: sebastian.huber

Replying to **Sebastian Huber**:

Ok, "target" alone makes probably no sense.

Agreed.

The "target/X" should catch anything which is related to a particular target architecture, e.g. CPU port and BSPs.

Could you please expand on this? It is not clear to me what this means.

Author: Trac Migrate 2017-10-05T05:28:50.000Z

Original author: sebastian.huber

Replying to **Chris Johns**:

Replying to **Sebastian Huber**:

The "target/X" should catch anything which is related to a particular target architecture, e.g. CPU port and BSPs.

Could you please expand on this? It is not clear to me what this means.

Bugs in a BSP, the CPU port (cpukit/score/cpu/X). Bugs that are only present for arm-rtems4.12, but not for powerpc-rtems4.12, etc.

Author: Chris Johns 2017-10-05T05:31:09.000Z

Original author: sebastian.huber

Replying to [Sebastian Huber](#):

Bugs in a BSP, the CPU port (cpukit/score/cpu/X). Bugs that are only present for arm-rtems4.12, but not for powerpc-rtems4.12, etc.

I understand purpose, the implementation is not clear to me and what X means.

Do you propose target/arm, target/arm/zedboard, or something else?

Author: Trac Migrate 2017-10-05T05:32:29.000Z

Original author: sebastian.huber

Just, target/arm. We should not have too many components.

Author: Trac Migrate 2017-10-05T05:37:07.000Z

Original author: sebastian.huber

Maybe we should reduce

- lib
- lib/block
- lib/dl
- lib/drvmgr

to just

- lib

Also

- fs
- fs/fat
- fs/ftpfs
- fs/imfs
- fs/jaffs2
- fs/nfs
- fs/rfs
- fs/tftpfs

to

- fs
- fs/fat
- fs/jaffs2
- fs/rfs

Author: Chris Johns 2017-10-05T05:38:22.000Z

Original author: sebastian.huber

Replying to **Sebastian Huber**:

Just, target/arm. We should not have too many components.

Then I propose arch/arm and not target. I have been attempting to make consistent the way to address a specific BSP as //arch/bsp// and so I would prefer we attempt to limit our usage to arch and bsp. A target could be defined as //arch/bsp//.

Author: Chris Johns 2017-10-05T05:39:03.000Z

Original author: sebastian.huber

Replying to **Sebastian Huber**:

Maybe we should reduce

Yes, this is better. It help management and the milestone report is simpler.

Author: Trac Migrate 2017-10-05T05:45:29.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 A look at
2
3 https://devel.rtems.org/milestone/4.12.0
4
5 reveals that the components are not a big help to get an overview of
6 ↪ the tickets since they cluster in the two components General and
7 ↪ cpukit.
8
9 I would like to replace the existing components with:
10
11 * build
12 * config

```

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```

11 * dev
12 * dev/i2c
13 * dev/serial
14 * dev/spi
15 * doc
16 * fs
17 * fs/fat
18 - * fs/ftpfs
19 - * fs/imfs
20 * fs/jaffs2
21 - * fs/nfs
22 * fs/rfs
23 - * fs/tftpfs
24 - * lang/ada
25 - * lang/c
26 - * lang/c++
27 - * lang/fortran
28 - * lang/go
29 - * lang/openmp
30 * lib
31 + * network
32 - * lib/block
33 - * lib/dl
34 - * lib/drvmgr
35 * network/legacy
36 * network/libbsd
37 - * network/service
38 * posix
39 * rtems
40 * score
41 * shell
42 + * arch/arm
43 - * target
44 - * target/arm
45 - * target/bfin
46 ?   -   ^^^
47
48 + * arch/bfin
49 ?   ^ ^
50
51 - * target/epiphany
52 ?   -   ^^^
53
54 + * arch/epiphany
55 ?   ^ ^
56
57 - * target/i386
58 ?   -   ^^^
59

```

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```
60 + * arch/i386
61 ?    ^^
62
63 - * target/lm32
64 ?    -   ^^^
65
66 + * arch/lm32
67 ?    ^^
68
69 - * target/m32c
70 ?    -   ^^^
71
72 + * arch/m32c
73 ?    ^^
74
75 - * target/m68k
76 ?    -   ^^^
77
78 + * arch/m68k
79 ?    ^^
80
81 - * target/mips
82 ?    -   ^^^
83
84 + * arch/mips
85 ?    ^^
86
87 - * target/moxie
88 ?    -   ^^^
89
90 + * arch/moxie
91 ?    ^^
92
93 - * target/nios2
94 ?    -   ^^^
95
96 + * arch/nios2
97 ?    ^^
98
99 - * target/no_cpu
100 - * target/or1k
101 ?    -   ^^^
102
103 + * arch/or1k
104 ?    ^^
105
106 - * target/powerpc
107 ?    -   ^^^
108
```

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```

109 + * arch/powerpc
110 ?    ^^
111
112 - * target/sh
113 + * arch/sh
114 - * target/sparc
115 ?    -  ^^^
116
117 + * arch/sparc
118 ?    ^^
119
120 - * target/sparc64
121 ?    -  ^^^
122
123 + * arch/sparc64
124 ?    ^^
125
126 - * target/v850
127 ?    -  ^^^
128
129 + * arch/v850
130 ?    ^^
131
132 * tool
133 * tool/binutils
134 * tool/gcc
135 * tool/gdb
136 * tool/newlib
137 * tool/rsb
138 * tool/tools
139 * tool/trac
140 * tool/website
141 * unspecified
142
143 With the following initial mapping:
144
145 * Ada -> lang/ada
146 * Autoconf -> build
147 * Automake -> build
148 * Bare -> unspecified
149 * Binutils -> tool/binutils
150 * Code -> unspecified
151 * CrossRPM -> unspecified
152 * Documentation -> doc
153 * GCC -> tool/gcc
154 * GDB -> tool/gdb
155 * General -> unspecified
156 * MinGW -> tool/rsb
157 * Minimum Version Checks -> unspecified

```

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```

158 * Newlib -> tool/newlib
159 * Other -> unspecified
160 * RSB -> tool/rsb
161 * RTEMS Configuration -> config
162 * SMP -> unspecified
163 * admin -> unspecified
164 * bsp -> target
165 * build -> build
166 * cpukit -> unspecified
167 * doc -> doc
168 * filesystem -> fs
169 * libbsd -> network/libbsd
170 * libcpu -> unspecified
171 * libdl -> lib/dl
172 * misc -> unspecified
173 * networking -> network
174 * patch - do not use -> unspecified
175 * pending -> unspecified
176 * pppd -> network/service
177 * shell -> shell
178 * testing -> unspecified
179 * tools -> tool
180 * web -> tool/web

```

I updated the components. I removed the lang/* stuff, since this overlaps with tool/gcc.

Author: Chris Johns 2017-10-05T05:50:45.000Z

Original author: sebastian.huber

//lang/ada// to //tool/gnat// ?

Is the second part of the list up to date, ie //tool/web// and //tool/website//?

Author: Trac Migrate 2017-10-05T05:53:34.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 A look at
2
3 https://devel.rtems.org/milestone/4.12.0
4
5 reveals that the components are not a big help to get an overview of
  ↳ the tickets since they cluster in the two components General and
  ↳ cpukit.

```

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```
6
7 I would like to replace the existing components with:
8
9 * build
10 * config
11 * dev
12 * dev/i2c
13 * dev/serial
14 * dev/spi
15 * doc
16 * fs
17 * fs/fat
18 * fs/jaffs2
19 * fs/rfs
20 * lib
21 * network
22 * network/legacy
23 * network/libbsd
24 * posix
25 * rtems
26 * score
27 * shell
28 * arch/arm
29 * arch/bfin
30 * arch/epiphany
31 * arch/i386
32 * arch/lm32
33 * arch/m32c
34 * arch/m68k
35 * arch/mips
36 * arch/moxie
37 * arch/nios2
38 * arch/or1k
39 * arch/powerpc
40 * arch/sh
41 * arch/sparc
42 * arch/sparc64
43 * arch/v850
44 * tool
45 * tool/binutils
46 * tool/gcc
47 * tool/gdb
48 * tool/newlib
49 * tool/rsb
50 * tool/tools
51 * tool/trac
52 * tool/website
53 * unspecified
54
```

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```

55 With the following initial mapping:
56
57 - * Ada -> lang/ada
58 + * Ada -> tool/gcc
59 * Autoconf -> build
60 * Automake -> build
61 * Bare -> unspecified
62 * Binutils -> tool/binutils
63 * Code -> unspecified
64 * CrossRPM -> unspecified
65 * Documentation -> doc
66 * GCC -> tool/gcc
67 * GDB -> tool/gdb
68 * General -> unspecified
69 * MinGW -> tool/rsb
70 * Minimum Version Checks -> unspecified
71 * Newlib -> tool/newlib
72 * Other -> unspecified
73 * RSB -> tool/rsb
74 * RTEMS Configuration -> config
75 * SMP -> unspecified
76 * admin -> unspecified
77 * bsp -> target
78 * build -> build
79 * cpukit -> unspecified
80 * doc -> doc
81 * filesystem -> fs
82 * libbsd -> network/libbsd
83 * libcpu -> unspecified
84 - * libdl -> lib/dl
85 ?          ---
86
87 + * libdl -> lib
88 * misc -> unspecified
89 - * networking -> network
90 + * networking -> network/legacy
91 ?          ++++++
92
93 * patch - do not use -> unspecified
94 * pending -> unspecified
95 - * pppd -> network/service
96 ?          ^ ^ ^ ^ ^
97
98 + * pppd -> network/legacy
99 ?          ^ ^ ^ ^
100
101 * shell -> shell
102 * testing -> unspecified
103 * tools -> tool

```

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```

104 - * web -> tool/web
105 + * web -> tool/website
106 ?          +++++

```

Author: Trac Migrate 2017-10-05T05:54:06.000Z

Original author: sebastian.huber

GNAT is part of GCC.

Author: Chris Johns 2017-10-05T06:04:38.000Z

Original author: sebastian.huber

Still not sure about just `//lib//` and if we need `//lib/dl//` and `//lib/block//`. They are big pieces of code that are specific.

What about `//examples//` and `//testsuite//`?

Author: Chris Johns 2017-10-05T06:09:26.000Z

Original author: sebastian.huber

Do the project tickets map across ok?

Author: Trac Migrate 2017-10-05T06:24:06.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 A look at
2
3 https://devel.rtems.org/milestone/4.12.0
4
5 reveals that the components are not a big help to get an overview of
6 ↪ the tickets since they cluster in the two components General and
7 ↪ cpukit.
8
9 I would like to replace the existing components with:
10
11 * build
12 * config
13 * dev
14 * dev/i2c
15 * dev/serial

```

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```
14 * dev/spi
15 * doc
16 * fs
17 * fs/fat
18 * fs/jaffs2
19 * fs/rfs
20 * lib
21 + * lib/block
22 + * lib/dl
23 * network
24 * network/legacy
25 * network/libbsd
26 * posix
27 * rtems
28 * score
29 * shell
30 * arch/arm
31 * arch/bfin
32 * arch/epiphany
33 * arch/i386
34 * arch/lm32
35 * arch/m32c
36 * arch/m68k
37 * arch/mips
38 * arch/moxie
39 * arch/nios2
40 * arch/or1k
41 * arch/powerpc
42 * arch/sh
43 * arch/sparc
44 * arch/sparc64
45 * arch/v850
46 * tool
47 * tool/binutils
48 * tool/gcc
49 * tool/gdb
50 * tool/newlib
51 * tool/rsb
52 * tool/tools
53 * tool/trac
54 * tool/website
55 * unspecified
56
57 With the following initial mapping:
58
59 * Ada -> tool/gcc
60 * Autoconf -> build
61 * Automake -> build
62 * Bare -> unspecified
```

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```

63 * Binutils -> tool/binutils
64 * Code -> unspecified
65 * CrossRPM -> unspecified
66 * Documentation -> doc
67 * GCC -> tool/gcc
68 * GDB -> tool/gdb
69 * General -> unspecified
70 * MinGW -> tool/rsb
71 * Minimum Version Checks -> unspecified
72 * Newlib -> tool/newlib
73 * Other -> unspecified
74 * RSB -> tool/rsb
75 * RTEMS Configuration -> config
76 * SMP -> unspecified
77 * admin -> unspecified
78 * bsps -> target
79 * build -> build
80 * cpukit -> unspecified
81 * doc -> doc
82 * filesystem -> fs
83 * libbsd -> network/libbsd
84 * libcpu -> unspecified
85 - * libdl -> lib
86 + * libdl -> lib/dl
87 ?          +++
88
89 * misc -> unspecified
90 * networking -> network/legacy
91 * patch - do not use -> unspecified
92 * pending -> unspecified
93 * pppd -> network/legacy
94 * shell -> shell
95 * testing -> unspecified
96 * tools -> tool
97 * web -> tool/website

```

Add lib/block and lib/dl.

Author: Trac Migrate 2017-10-05T06:25:59.000Z

Original author: sebastian.huber

Replying to [Chris Johns](#):

What about //examples// and //testsuite//?

I would use unspecified for the examples. The testsuite stuff belongs to the module under test, e.g. broken FAT file system tests belong to fs/fat for example.

Author: Trac Migrate 2017-10-06T11:50:23.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```
1 A look at
2
3 https://devel.rtems.org/milestone/4.12.0
4
5 reveals that the components are not a big help to get an overview of
6 ↪ the tickets since they cluster in the two components General and
7 ↪ cpukit.
8
9 I would like to replace the existing components with:
10
11 * build
12 + * bsp
13 * config
14 * dev
15 * dev/i2c
16 * dev/serial
17 * dev/spi
18 * doc
19 * fs
20 * fs/fat
21 * fs/jaffs2
22 * fs/rfs
23 * lib
24 * lib/block
25 * lib/dl
26 * network
27 * network/legacy
28 * network/libbsd
29 * posix
30 * rtems
31 * score
32 * shell
33 * arch/arm
34 * arch/bfin
35 * arch/epiphany
36 * arch/i386
37 * arch/lm32
38 * arch/m32c
39 * arch/m68k
40 * arch/mips
41 * arch/moxie
42 * arch/nios2
```

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```

41 * arch/or1k
42 * arch/powerpc
43 * arch/sh
44 * arch/sparc
45 * arch/sparc64
46 * arch/v850
47 * tool
48 * tool/binutils
49 * tool/gcc
50 * tool/gdb
51 * tool/newlib
52 * tool/rsb
53 * tool/tools
54 * tool/trac
55 * tool/website
56 * unspecified
57
58 With the following initial mapping:
59
60 * Ada -> tool/gcc
61 * Autoconf -> build
62 * Automake -> build
63 * Bare -> unspecified
64 * Binutils -> tool/binutils
65 * Code -> unspecified
66 * CrossRPM -> unspecified
67 * Documentation -> doc
68 * GCC -> tool/gcc
69 * GDB -> tool/gdb
70 * General -> unspecified
71 * MinGW -> tool/rsb
72 * Minimum Version Checks -> unspecified
73 * Newlib -> tool/newlib
74 * Other -> unspecified
75 * RSB -> tool/rsb
76 * RTEMS Configuration -> config
77 * SMP -> unspecified
78 * admin -> unspecified
79 - * bsps -> target
80 + * bsps -> bsps
81 * build -> build
82 * cpukit -> unspecified
83 * doc -> doc
84 * filesystem -> fs
85 * libbsd -> network/libbsd
86 * libcpu -> unspecified
87 * libdl -> lib/dl
88 * misc -> unspecified
89 * networking -> network/legacy

```

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```

90 * patch - do not use -> unspecified
91 * pending -> unspecified
92 * pppd -> network/legacy
93 * shell -> shell
94 * testing -> unspecified
95 * tools -> tool
96 * web -> tool/website

```

Added bsps component for everything shared by BSPs which is not in cpukit.

I will carry out the changes as proposed in the description next week if nobody objects.

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Joel Sherrill 2017-12-05T14:24:29.000Z

Original author: sebastian.huber

Hasn't this been done and this ticket should be closed?

Author: Joel Sherrill 2017-12-05T14:25:47.000Z

Original author: sebastian.huber

Hasn't this been done and this ticket should be closed?

Author: Trac Migrate 2017-12-05T14:27:00.000Z

Original author: sebastian.huber

I cannot change the default category. I wanted to wait for the Trac update.

Author: Joel Sherrill 2018-10-13T22:53:47.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.1" to %"Indefinite"

Author: Kinsey Moore 2025-01-31T16:22:26.618Z

This is no longer relevant since we have moved to GitLab. Please create a new issue if a similar desire exists for alteration of GitLab.

Author: Kinsey Moore 2025-01-31T16:22:27.156Z

changed the description

4.2.1.8 3097 - i386 libdebugger build failure

Id	3097
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2017-08-15T17:57:27.000Z
Updated	2025-09-19T01:32:53.114Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3097
Merges	0

On the master:

```
i386-rtems4.12-gcc -pipe -DHAVE_CONFIG_H -I. -I../cpukit/../../../../pc386/lib/include
-mtune=i386 -O2 -g -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes
-Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT rtems-
debugger-i386.o -MD -MP -MF $debase.Tpo -c -o rtems-debugger-i386.o
../../../../../../../../rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-i386.c &&mv -f
$debase.Tpo $debase.Po ../../../../../../rtems/c/src/../../../../cpukit/libdebugger/rtems-
debugger-i386.c: In function 'rtems_debugger_target_write_regs':
../../../../../../../../rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-i386.c:285:36: er-
ror: 'RTEMS_DEBUGGER_THREAD_FLAG_DEBUGGING' undeclared (first use in
this function); did you mean 'RTEMS_DEBUGGER_THREAD_FLAG_STEPPING'?
RTEMS_DEBUGGER_THREAD_FLAG_DEBUGGING)) { ^~~~~~
RTEMS_DEBUGGER_THREAD_FLAG_STEPPING ../../../../../../rtems/c/src/../../../../cpukit/libdebugger/rtems-
debugger-i386.c:285:36: note: each undeclared identifier is reported only once for each
function it appears in
```

Author: Joel Sherrill 2017-08-15T17:57:39.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-08-16T03:35:11.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"8ad4d937df8b15254d3ac9a8be186b72f31bc0d2/rtems" 8ad4d93/rtems]:

```

1 libdebugger/i386 Fix i386 backend after changes.
2
3 Closes #3097.

```

Author: Chris Johns 2025-09-19T01:32:53.178Z

changed the description

4.2.1.9 3086 - Remove Edison BSP

Id	3086
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2017-07-28T15:39:51.000Z
Updated	2025-09-19T01:32:52.960Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3086
Merges	0

Intel has discontinued the Edison. The BSP is only partially complete and the pc386 BSP has hacks to make it run. It should be removed.

Author: Joel Sherrill 2017-07-28T15:40:02.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Gedare Bloom 2017-07-28T17:03:26.000Z

Anything you can do to clean up pc386 a bit in the process will be good...

Author: Joel Sherrill 2017-07-28T18:07:27.000Z

I am just removing the Edison. No further clean up. :(

Author: Joel Sherrill 2017-07-28T20:14:19.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

This should have closed when I pushed the fix.

Author: Chris Johns 2025-09-19T01:32:53.010Z

changed the description

4.2.1.10 3073 - Improve configuration of interrupt servers

Id	3073
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-07-12T06:12:38.000Z
Updated	2025-09-19T01:32:52.867Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3073
Merges	0

Original author: sebastian.huber

Currently, one interrupt server is created for each processor in the system. This should be more configurable by the user, e.g. add an alternative initialization routine that uses a configuration table with various options. The interrupt server API uses a server index to identify a particular server, this can be mapped to the configuration table index.

Author: Trac Migrate 2021-06-18T09:27:38.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Fixed by [#4033](#).

Author: Amar Takhar 2025-09-05T02:57:38.726Z

changed the description

4.2.1.11 3051 - warning in mpc55xxevb BSP

Id	3051
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2017-06-14T14:35:59.000Z
Updated	2025-09-19T01:32:52.703Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3051
Merges	0

../../../../../../../../rtems/c/src/lib/libbsp/powerpc/mpc55xxevb/./shared/src/memcpy.c:28:0:
warning: "CACHE_LINE_SIZE" redefined

I thought it best if Sebastian took a look at this one.

Author: Joel Sherrill 2017-06-14T14:36:09.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-06-16T04:23:17.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"b361cb6c4db0e6f26729cf0a0dd136fad2d64897/rtems" b361cb6c/rtems]:

```
1 bsp/powerpc: Fix warning
2
3 Close #3051.
```

Author: Chris Johns 2025-09-19T01:32:52.758Z

changed the description

4.2.1.12 3038 - QEMU cannot initialize audio driver bsp: lm32/milkymist

Id	3038
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-06-12T09:42:59.000Z
Updated	2025-09-19T01:32:52.609Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::invalid, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3038
Merges	0

Original author: cpod

Trying to run hello.exe with QEMU for BSP lm32/milkymist, fails due to audio driver issue.

```
qemu-system-lm32 -no-reboot -monitor null -serial stdio -nographic -net
none -M milkymist -kernel $HOME/development/rtems/milkymist/lm32-
rtems4.12/c/milkymist/testsuites/samples/hello/hello.exe audio: Could not init `oss' audio
driver Warning: nic milkymist-minimac2.0 has no peer
```

Author: Trac Migrate 2017-06-15T09:27:29.000Z

Original author: cpod

- **Milestone** set to %"Indefinite"

Author: Gedare Bloom 2017-07-01T12:14:13.000Z

Original author: cpod

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

I have seen this on other qemu, it appears to be a benign warning and not a failure. You can make it disappear by providing an env variable: QEMU_AUDIO_DRV=none
qemu-system-lm32 ...

Author: Chris Johns 2017-07-03T04:42:07.000Z

Original author: cpod

You can also build qemu without audio support. If building qemu I find this lowers the number of dependencies you need removing unwanted driver support.

Author: Amar Takhar 2025-09-05T03:02:38.520Z

changed the description

4.2.1.13 3037 - QEMU fails to exit after test, 4 BSPS

Id	3037
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Closed by	Joel Sherrill
Created	2017-06-12T09:31:55.000Z
Closed	2024-12-24T22:03:34.356Z
Updated	2025-09-19T01:32:52.515Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, rtems::testing, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3037
Merges	0

Original author: cpod

Qemu tests time out as it fails to exit after test is run. Hello.exe hangs on the line 'end of test hello world' and requires manual exit (ctrl+C)

* **BEGIN OF TEST HELLO WORLD** * Hello World * **END OF TEST HELLO WORLD** * qemu: terminating on signal 2

The BSPS affected are

ARM: lm3s6965_qemu

i386: PC386 (Current RSB-Qemu hangs before test output and Couverture-Qemu is as described)

LM32: lm32_evr

MIPS: malta

Author: Trac Migrate 2017-06-15T09:26:51.000Z

Original author: cpod

- **Milestone** set to %"Indefinite"

Author: Trac Migrate 2017-06-23T09:32:25.000Z

Original author: cpod

Replying to [Cillian O'Donnell](#):

Qemu tests time out as it fails to exit after test is run. Hello.exe hangs on the line 'end of test hello world' and requires manual exit (ctrl+C)

* **BEGIN OF TEST HELLO WORLD** * Hello World * **END OF TEST**

HELLO WORLD * qemu: terminating on signal 2 The BSPs affected are ARM: lm3s6965_qemu i386: PC386 (Current RSB-Qemu hangs before test output and Couverture-Qemu is as described) This anomaly has disappeared with a slight change of Qemu options. i386 PC386 now behaves like the rest for both Qemu variants

LM32: lm32_evr MIPS: malta

Author: Chris Johns 2017-06-25T23:47:36.000Z

Original author: cpod

Replying to [Cillian O'Donnell](#):

Replying to [Cillian O'Donnell](#):

Qemu tests time out as it fails to exit after test is run. Hello.exe hangs on the line 'end of test hello world' and requires manual exit (ctrl+C)

The rtems-tester can be conditionally made to stop a simulator after a test if we finally decide the issue is in the simulator. We need to be careful not to kill the test if the problem is in the shutdown of the BSP due of a lack of a suitable shutdown, a bug or some issue in the tool set up.

```
* BEGIN OF TEST HELLO WORLD *
Hello World * END OF TEST HELLO
WORLD * qemu: terminating on signal 2 The BSPs affected are ARM:
lm3s6965_qemu i386: PC386 (Current RSB-Qemu hangs before test output and
Couverture-Qemu is as described)
```

This anomaly has disappeared with a slight change of Qemu options. i386 PC386 now behaves like the rest for both Qemu variants

What is the change to the options? It would be nice to document here what they are.

LM32: lm32_evr MIPS: malta

Author: Trac Migrate 2017-06-26T11:47:00.000Z

Original author: cpod

Replying to [Chris Johns](#):

Replying to [Cillian O'Donnell](#):

Replying to [Cillian O'Donnell](#):

Qemu tests time out as it fails to exit after test is run. Hello.exe hangs on the line 'end of test hello world' and requires manual exit (ctrl+C)

The `rtems-tester` can be conditionally made to stop a simulator after a test if we finally decide the issue is in the simulator. We need to be careful not to kill the test if the problem is in the shutdown of the BSP due of a lack of a suitable shutdown, a bug or some issue in the tool set up. Ok, any tips on how to determine which of these problems I have?

```
* BEGIN OF TEST HELLO WORLD *
Hello World * END OF TEST HELLO
WORLD * qemu: terminating on sig-
nal 2 The BSPs affected are ARM:
lm3s6965_qemu i386: PC386 (Current
RSB-Qemu hangs before test output and
Couverture-Qemu is as described)
```

This anomaly has disappeared with a slight change of Qemu options. i386 PC386 now behaves like the rest for both Qemu variants

What is the change to the options? It would be nice to document here what they are. Yes I should've mentioned this. Using the following 3 sets of options, which are more in line with what had worked previously, the tests hangs before the output

```
qemu-system-i386 -m 128 -boot b -hda path_to/rtems-
boot.img -no-reboot -monitor null -serial stdio -nographic -
append "-console=com1;boot;" -kernel hello.exe
```

or

```
qemu-system-i386 -no-reboot -serial null -serial mon:stdio -
nographic -kernel hello.exe (in this case 'kill pid' must be is-
sued)
```

or

```
qemu-system-i386 -no-reboot -monitor null -serial stdio -
nographic -kernel hello.exe
```

and with a simpler set of options suggested by Sebastian it hangs after the output and behaves like the others as detailed above

```
qemu-system-i386 -monitor null -nographic -serial stdio -
nodefaults -kernel hello.exe
```

LM32: lm32_evr MIPS: malta

Author: Chris Johns 2017-06-26T23:38:09.000Z

Original author: cpod

Replying to [Cillian O'Donnell](#):

Replying to [Chris Johns](#):

Replying to [Cillian O'Donnell](#):

Replying to **Cillian O'Donnell**:

Qemu tests time out as it fails to exit after test is run. Hello.exe hangs on the line 'end of test hello world' and requires manual exit (ctrl+C)

The rtems-tester can be conditionally made to stop a simulator after a test if we finally decide the issue is in the simulator. We need to be careful not to kill the test if the problem is in the shutdown of the BSP due of a lack of a suitable shutdown, a bug or some issue in the tool set up.

Ok, any tips on how to determine which of these problems I have?

You need to examine each BSP:

1. Does the BSP have suitable reset logic? This could be a hardware register that generate a power on reset (POR) or a power down, or a call to target resident ROM code that does this. It may mean looking into any technical reference detail about the specific target hardware looking for something that we could use, for example watch dogs.
2. Does QEMU support the functionality to match the BSP? If not what does QEMU support and does the BSP support it? It may also pay to ask the qemu community to see if there is something we are missing.
3. If QEMU and the BSP cannot be made to align so qemu exits please come back so we can discuss possible support in the tester to kill qemu. Killing qemu when a test passes is something we can support however what happens on failures is more difficult. Further timeouts are hard when running parallel qemu jobs because the load on the host changes the targets view of real-time vs the hosts view.

```
* BEGIN OF TEST HELLO WORLD *
Hello World * END OF TEST HELLO
WORLD * qemu: terminating on sig-
nal 2 The BSPS affected are ARM:
lm3s6965_qemu i386: PC386 (Current
RSB-Qemu hangs before test output and
Couverture-Qemu is as described)
```

This anomaly has disappeared with a slight change of Qemu options. i386 PC386 now behaves like the rest for both Qemu variants

What is the change to the options? It would be nice to document here what they are.

Yes I should've mentioned this. Using the following 3 sets of options, which are more in line with what had worked previously, the tests hangs before the output qemu-system-i386 -m 128 -boot b -hda path_to/rtems-boot.img -no-reboot -monitor null -serial stdio -nographic -append

“-console=com1;boot;” -kernel hello.exe or qemu-system-i386 -no-reboot -serial null -serial mon:stdio -nographic -kernel hello.exe (in this case ‘kill pid’ must be issued) or qemu-system-i386 -no-reboot -monitor null -serial stdio -nographic -kernel hello.exe

This aligns to the settings in the rtems-test tool:

<https://git.rtems.org/rtems-tools/tree/tester/rtems/testing/qemu.cfg#n51>

and with a simpler set of options suggested by Sebastian it hangs after the output and behaves like the others as detailed above qemu-system-i386 -monitor null -nographic -serial stdio -nodefaults -kernel hello.exe

Just to be clear, what do you mean by “others”? Is this systems that hang or the systems that exit qemu to finish the test?

Author: Trac Migrate 2017-06-27T09:04:15.000Z

Original author: cpod

Replying to [Chris Johns](#):

Replying to [Cillian O'Donnell](#):

Replying to [Chris Johns](#):

Replying to [Cillian O'Donnell](#):

Replying to [Cillian O'Donnell](#):

Qemu tests time out as it fails to exit after test is run. Hello.exe hangs on the line ‘end of test hello world’ and requires manual exit (ctrl+C)

The rtems-tester can be conditionally made to stop a simulator after a test if we finally decide the issue is in the simulator. We need to be careful not to kill the test if the problem is in the shutdown of the BSP due to a lack of a suitable shutdown, a bug or some issue in the tool set up.

Ok, any tips on how to determine which of these problems I have?

You need to examine each BSP: 1. Does the BSP have suitable reset logic? This could be a hardware register that generate a power on reset (POR) or a power down, or a call to target resident ROM code that does this. It may mean looking into any technical reference detail about the specific target hardware looking for something that we could use, for example watch dogs. 2. Does QEMU support the functionality to match

the BSP? If not what does QEMU support and does the BSP support it? It may also pay to ask the qemu community to see if there is something we are missing. 3. If QEMU and the BSP cannot be made to align so qemu exits please come back so we can discuss possible support in the tester to kill qemu. Killing qemu when a test passes is something we can support however what happens on failures is more difficult. Further timeouts are hard when running parallel qemu jobs because the load on the host changes the targets view of real-time vs the hosts view.

That's great, thanks Chris. I'll dig into this.

```
* BEGIN OF TEST HELLO
WORLD * Hello World * END
OF TEST HELLO WORLD *
qemu: terminating on sig-
nal 2 The BSPs affected are
ARM: lm3s6965_qemu i386:
PC386 (Current RSB-Qemu
hangs before test output and
Couverture-Qemu is as de-
scribed)
```

This anomaly has disappeared with a slight change of Qemu options. i386 PC386 now behaves like the rest for both Qemu variants

What is the change to the options? It would be nice to document here what they are.

Yes I should've mentioned this. Using the following 3 sets of options, which are more in line with what had worked previously, the tests hangs before the output `qemu-system-i386 -m 128 -boot b -hda path_to/rtems-boot.img -no-reboot -monitor null -serial stdio -nographic -append "-console=com1;boot;" -kernel hello.exe` or `qemu-system-i386 -no-reboot -serial null -serial mon:stdio -nographic -kernel hello.exe` (in this case 'kill pid' must be issued) or `qemu-system-i386 -no-reboot -monitor null -serial stdio -nographic -kernel hello.exe`

This aligns to the settings in the `rtems-test` tool: <https://git.rtems.org/rtems-tools/tree/tester/rtems/testing/qemu.cfg#n51>

and with a simpler set of options suggested by Sebastian it hangs after the output and behaves like the others as detailed above `qemu-system-i386 -monitor null -nographic -serial stdio -nodefaults -kernel hello.exe`

Just to be clear, what do you mean by “others”? Is this systems that hang or the systems that exit qemu to finish the test?

The ‘others’ is referring to systems that hang. With that change in options all 4 bsp's hang after ‘hello world’ output and require manual exit (ctrl+c) for both the current RSB-Qemu and Couverture-Qemu.

Author: Joel Sherrill 2024-12-24T22:03:34.080Z

If this still is occurring, someone will file a new issue. This is old enough where at least one of the architectures has been obsoleted.

Author: Joel Sherrill 2024-12-24T22:03:34.491Z

changed the description

4.2.1.14 3022 - compiling with DDB defined yields error

Id	3022
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-05-18T18:43:14.000Z
Updated	2025-09-19T01:32:52.325Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::wontfix, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3022
Merges	0

Original author: phongvanpham

Don't know if DDB is supported in RTEMS but since VERBOSE_SYSINIT does so I would expect it to be. If it is not supported in RTEMS, please close ticket. If it is, see attachment for error.

- [ddb_defined_error.PNG](#)

Author: Trac Migrate 2017-05-18T18:44:02.000Z

Original author: phongvanpham

- **Attachment** [ddb_defined_error.PNG](#) added

Author: Trac Migrate 2017-05-19T07:34:27.000Z

Original author: phongvanpham

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

DDB is not supported and I don't think it makes sense to support it. Just use a normal debugger.

Author: Chris Johns 2025-09-19T01:32:52.404Z

changed the description

4.2.1.15 3021 - libbsd cannot compile with -O0 option

Id	3021
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-05-18T17:27:43.000Z
Updated	2025-09-19T01:32:52.155Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::wontfix, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3021
Merges	0

Original author: phongvanpham

Currently the symbol `swi_remove` is `#ifdef`'ed out in `rtems (kern_intr.c)`. However, there are places that were referencing `swi_remove` without `#ifdef` around it. I am new to `libbsd` and I currently do not have expertise to determine if the actual `swi` test itself needs to be removed or just `ifdef`'ed out where `swi_remove` symbol is referenced or anything in between. Attached is a screenshot showing `swi_remove` is referenced.

One last note, compiling with `-O2` is ok.

- [swi_remove_symbol_missing.PNG](#)

Author: Trac Migrate 2017-05-18T17:28:15.000Z

Original author: phongvanpham

- **Attachment** [swi_remove_symbol_missing.PNG](#) added

Author: Trac Migrate 2017-05-19T07:35:31.000Z

Original author: phongvanpham

Which BSP did you use? I use `-O0` sometimes and it works well.

Author: Trac Migrate 2017-05-22T16:41:30.000Z

Original author: phongvanpham

Replying to [Sebastian Huber](#):

Which BSP did you use? I use -OO sometimes and it works well.

The issue has to do with a lack of the following additional compiler (and linker) options

`-ffunction-sections -fdata-sections -Wl,-gc-sections`

when compiling with -OO.

Since some of compiler+linker options are partially taken from BSP settings, are you mandating that the above options to be in the BSP in order to use libbsd?

Personally, I don't think it is a good idea. If you need them to compile libbsd, you should explicitly state them in the waf compiling environment (assuming you don't want to fix the `swi_remove` symbol issue directly) by modifying the `libbsd_waf.py` (or wherever the input to the tool that autogenerate `libbsd_waf.py`). In this way, you're removing the dependency from BSP compiling options.

Author: Trac Migrate 2017-05-23T05:57:30.000Z

Original author: phongvanpham

Every BSP should use these options. Yes, its not obvious and setting these options explicitly in every BSP is bad.

Author: Trac Migrate 2017-05-23T16:41:35.000Z

Original author: phongvanpham

Replying to [Sebastian Huber](#):

Every BSP should use these options. Yes, its not obvious and setting these options explicitly in every BSP is bad.

From your comment, I couldn't figure out what your plan of action is.

If it is a mandate that every BSP is required to have those compiler/linker options in order to use `rtems-libbsd`, then this ticket is no longer valid and pls. feel free to close it as "wont fix".

From my end, there is nothing else to do for this ticket.

Author: Trac Migrate 2017-05-24T05:16:37.000Z

Original author: phongvanpham

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

There are some tickets to enable these options on every BSP.

Author: Chris Johns 2025-09-19T01:32:52.213Z

changed the description

4.2.1.16 2991 - improvement in smp capability

Id	2991
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-04-13T17:50:08.000Z
Updated	2025-09-19T01:32:52.066Z
Milestone	5.1
Labels	old-indefinite, priority::normal, resolution::invalid, tickettype::project, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2991
Merges	0

Original author: hunk3749

i want to know the project ideas regarding improving th smp capability

Author: Chris Johns 2017-04-14T06:04:20.000Z

Original author: hunk3749

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

Please do not create tickets for questions that can be asked on the developers mailing list.

Author: Amar Takhar 2025-09-05T03:02:38.319Z

changed the description

4.2.1.17 2986 - Convert Coding Style to Sphinx Document

Id	2986
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Closed by	Gedare Bloom
Created	2017-04-07T15:17:30.000Z
Closed	2025-01-18T02:20:57.650Z
Updated	2025-09-19T01:32:51.976Z
Milestone	5.1
Labels	doc, gsoc::small, old-indefinite, priority::normal, project::small, qualification, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2986
Merges	0

The RTEMS Coding Style should be in a Sphinx document so it is included in the formal documentation set. This is a document expected for certification and qualification efforts.

There are still various pages in the wiki which can be found by using this search URL which require merging into the Software Engineering Guide or otherwise updating.

<https://devel.rtems.org/search?q=Developer%2FCoding&noquickjump=1&wiki=on>

All Doxygen guidance should be in the Guide. GCI instructions may remain in the wiki. Was at wiki Developer Coding Conventions. Now at <https://docs.rtems.org/branches/master/eng/coding-conventions.html>

As a specific starting point, <https://devel.rtems.org/wiki/Developer/Coding/Doxygen> needs further review against the Doxygen Guidelines at <https://docs.rtems.org/branches/master/eng/coding-doxxygen.html#>.

Author: Chris Johns 2017-04-09T00:22:44.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

I think we need a document that contains all the processes and procedures for the project. There are a number of elements we have that need to be formalised and documented.

What should we call this document, “RTEMS Project Development Procedures”?

Author: Trac Migrate 2017-06-08T07:49:06.000Z

- **Milestone** changed from %”4.12.0” to %”Indefinite”

Author: Joel Sherrill 2020-04-30T22:05:19.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

The text in the Wiki page is now in the Software Engineering Guide. See <https://docs.rtems.org/branches/master/eng/coding-conventions.html>

Author: Joel Sherrill 2020-04-30T22:07:12.000Z

- **Description** changed

```

1 The RTEMS Coding Style should be in a Sphinx document so it is included
  ↳ in the formal documentation set. This is a document expected for
  ↳ certification and qualification efforts.
2
3 - https://devel.rtems.org/wiki/Developer/Coding/Conventions
4 + Was at wiki Developer Coding Conventions. Now at https://docs.rtems.
  ↳ org/branches/master/eng/coding-conventions.html

```

Author: Joel Sherrill 2020-05-01T13:05:12.000Z

- **Description** changed

```

1 The RTEMS Coding Style should be in a Sphinx document so it is included
  ↳ in the formal documentation set. This is a document expected for
  ↳ certification and qualification efforts.
2
3 + There are still various pages in the wiki which can be found by using
  ↳ this search URL which require merging into the Software Engineering
  ↳ Guide or otherwise updating.
4 +
5 + https://devel.rtems.org/search?q=Developer%2FCoding&noquickjump=1&
  ↳ wiki=on
6 +
7 + All Doxygen guidance should be in the Guide. GCI instructions may
  ↳ remain in the wiki.
8 Was at wiki Developer Coding Conventions. Now at https://docs.rtems.org/
  ↳ branches/master/eng/coding-conventions.html

```

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

Reopening since more Doxygen advice/guidance found.

Author: Joel Sherrill 2020-05-01T13:06:22.000Z

- **Description** changed

```

1 The RTEMS Coding Style should be in a Sphinx document so it is included
  ↳ in the formal documentation set. This is a document expected for
  ↳ certification and qualification efforts.
2
3 There are still various pages in the wiki which can be found by using

```

(continues on next page)

(continued from previous page)

```

↪this search URL which require merging into the Software Engineering
↪Guide or otherwise updating.
4
5 https://devel.rtems.org/search?q=Developer%2FCoding&noquickjump=1&
↪wiki=on
6
7 All Doxygen guidance should be in the Guide. GCI instructions may
↪remain in the wiki.
8 Was at wiki Developer Coding Conventions. Now at https://docs.rtems.org/
↪branches/master/eng/coding-conventions.html
9 +
10 + As a specific starting point, https://devel.rtems.org/wiki/Developer/
↪Coding/Doxygen needs further review
11 + against the Doxygen Guidelines at
12 + https://docs.rtems.org/branches/master/eng/coding-doxygen.html#.

```

Author: Amar Takhar 2024-04-25T20:45:40.766Z

changed the description

Author: Gedare Bloom 2025-01-18T02:20:57.404Z

I think this is mostly finished.

4.2.1.18 2972 - Add ndbm.h support

Id	2972
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2017-04-04T15:32:59.000Z
Updated	2025-09-19T01:32:51.880Z
Milestone	5.1
Labels	old-indefinite, posix::compliance, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2972
Merges	0

POSIX defines the functionality included in the ndbm.h file here:

<https://pubs.opengroup.org/onlinepubs/9699919799/basedefs/ndbm.h.html>

This functionality is not required by any FACE profile.

It is likely the best way to add this capability is as an add-on library via the RSB.

Author: Trac Migrate 2017-04-05T05:26:00.000Z

I would simply import this from FreeBSD into Newlib.

Author: Trac Migrate 2019-08-12T05:34:29.000Z

Support got added in Newlib. The testsuite is added in conditional way in RTEMS.

Author: Joel Sherrill 2019-09-25T17:06:53.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

This has been completed.

Author: Amar Takhar 2024-04-25T20:45:37.636Z

changed the description

4.2.1.19 2970 - Add ftw.h to newlib

Id	2970
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2017-04-03T23:51:40.000Z
Updated	2025-09-19T01:32:51.767Z
Milestone	5.1
Labels	old-indefinite, posix::compliance, priority::normal, resolution::fixed, tick-ettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2970
Merges	0

Add functionality from the ftw.h POSIX file per <http://pubs.opengroup.org/onlinepubs/9699919799/basedefs/ftw.h.html>

This adds the methods ftw() and nftw().

Note that ftw() was declared obsolete by POSIX-2008 but should be added anyway for back-wards compatibility.

FreeBSD implementation of both can be found here:

<https://github.com/freebsd/freebsd/tree/master/lib/libc/gen>

When these methods are added, modify testsuites/psxtests in the psxhdrs section to add the ftw API Compliance tests which are already in place.

Author: Joel Sherrill 2017-04-03T23:53:14.000Z

- **Summary** changed from *Add ftw,h* to *Add ftw,h to newlib*

Author: Joel Sherrill 2018-03-27T14:50:00.000Z

- **Description** changed

```

1 - Add functionality from the ftw.h POSIX file per http://pubs.opengroup.
  ↪org/onlinepubs/9699919799/
2 + Add functionality from the ftw.h POSIX file per http://pubs.opengroup.
  ↪org/onlinepubs/9699919799/basedefs/ftw.h.html
3 ?
  ↪
  ++++++
4
5 +
6 + This adds the methods ftw() and nftw().
7 +
8 + Note that ftw() was declared obsolete by POSIX-2008 but should be
  ↪added anyway for backwards compatibility.
9 +
10 + FreeBSD implementation of both can be found here:
11 +
12 + https://github.com/freebsd/freebsd/tree/master/lib/libc/gen
13 +
14 +

```

- **Summary** changed from *Add ftw,h to newlib* to *Add ftw.h to newlib*

Author: Joel Sherrill 2018-12-06T04:08:35.000Z

- **Description** changed

```

1 Add functionality from the ftw.h POSIX file per http://pubs.opengroup.
  ↪org/onlinepubs/9699919799/basedefs/ftw.h.html
2
3 This adds the methods ftw() and nftw().
4
5 Note that ftw() was declared obsolete by POSIX-2008 but should be added
  ↪anyway for backwards compatibility.
6
7 FreeBSD implementation of both can be found here:
8
9 https://github.com/freebsd/freebsd/tree/master/lib/libc/gen
10
11 + When these methods are added, modify testsuites/psxtests in the
  ↪psxhdrs section to add the ftw API Compliance tests which are already
  ↪in place.
12
13 +

```

- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

- **Version** ~”5” deleted

Author: Trac Migrate2021-02-06T21:02:25.000Z

This issue can be closed when the newlib patch is pushed

Author: Trac Migrate2021-04-06T18:32:45.000Z

FTW support has been added to newlib and tests have been added to RTEMS so this ticket can be closed now

Author: Trac Migrate2021-04-06T18:34:37.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

Author: Amar Takhar2024-04-25T20:45:36.414Z

changed the description

4.2.1.20 2921 - libdl assumes constructors in ELF are a “.ctors” section.

Id	2921
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-03-09T02:58:32.000Z
Updated	2025-09-19T01:32:51.568Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::4.11, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2921
Merges	0

The RTL libdl loader assumes constructors are in a section called ‘.ctor’ and destructors are in ‘.dctor’. The section can have any name. The section type needs to be used.

Author: Chris Johns2017-03-23T01:03:28.000Z

- **Milestone** changed from %”4.11.2” to %”4.11.3”

The 4.11.2 milestone is closing.

Author: Chris Johns2018-02-05T05:10:39.000Z

- **Milestone** %”4.11.3” deleted
- **Version** changed from ~”4.11” to ~”5”

This bug is present on the master branch and needs to be fixed there. If the change is suitable for back porting a new ticket can be opened and a suitable 4.11 milestone can be assigned.

Author: Trac Migrate 2019-02-08T23:08:31.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”4408603e27d028c5c735cf5d9d8160807ce1d591/rtems” 4408603/rtems]:

```
1 libdl: Fix the support for constructors and destructors.
2
3 - Fix the handling of pending objects.
4 - Add a constructor flags in objects to track then being called.
5
6 Closes #2921
```

Author: Chris Johns 2025-09-19T01:32:51.640Z

changed the description

4.2.1.21 2860 - docs.rtems.org does not work on iPhones or iPads

Id	2860
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-01-14T20:59:59.000Z
Updated	2025-09-19T01:32:51.452Z
Milestone	5.1
Labels	doc, old-indefinite, priority::highest, resolution::fixed, tickettype::defect, version::4.11, version::4.12, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2860
Merges	0

The accordion box collapse does not work on iPhone and iPad.

- [0001-docs.rtems.org-fix-website-in-iPhones-and-iPads.patch](#)

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

Author: Chris Johns 2017-08-13T23:39:11.000Z

- **Version** changed from ~"4.11" to ~"4.12"

Author: Chris Johns 2017-10-11T23:12:34.000Z

- **Status** changed from *new* to *accepted*

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Joel Sherrill 2018-10-14T00:33:55.000Z

- **Milestone** changed from %"5.1" to %"Indefinite"
- **Version** ~"5" deleted

Author: Trac Migrate 2018-12-06T15:52:25.000Z

I downloaded the <https://docs.rtems.org> website with a website downloader and made a local web server to be able to test the changes I make from the computer in an iPad. I used an iPad 2 from 2011 with iOS 9.3.5 to test it so it should work on newer iPhones and iPads too.

Basically what happens is that the code is correct (this is why it works in every other web browser), but relies only on the `data-target` and `data-toggle` attributes, which for iPad's and iPhone's Safari web browser don't work very well. Other iOS web browsers (Chrome, Firefox, etc. for iOS) are probably also affected by this bug because Apple only permits to use the Safari browser engine in iOS applications. Just by adding some CSS (`cursor: pointer;`) to the element works as expected. This change also shows a pointer cursor when hovering over the accordion you have to click when using a computer which makes it more intuitive instead of just an arrow.

I think that the source code of <https://docs.rtems.org> is not in any public repository so I can't make a patch, but the code to add is really short and simple. Just add this code at the end of <https://docs.rtems.org/static/rtems/css/rtems.css>:

```
1 [data-toggle~="collapse"] {
2   cursor: pointer;
3 }
```

The code adds the required CSS to all elements which have the attribute `data-toggle="collapse"`, so it fixes every element and everything works as expected.

Author: Chris Johns 2018-12-09T23:44:12.000Z

This is awesome.

The docs web site is held in this repo <https://git.rtems.org/chrisj/rtems-admin.git/>.
If you could please make a patch against this repo I can apply it and push it.

Thank you for taking a look and providing a solution.

Author: Trac Migrate 2018-12-10T19:17:15.000Z

Ok, patch done! (attached and sent to devel@)

Author: Trac Migrate 2018-12-10T19:18:06.000Z

- **Attachment** [0001-docs.rtems.org-fix-website-in-iPhones-and-iPads.patch](#) added

Patch to fix the bug

Author: Chris Johns 2018-12-13T22:06:58.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

Pushed the patch to the repo and uploaded the change to docs.rtems.org so it is now live. I have tested the change on IOS and all is working. Thank you for looking into this and fixing it.

Author: Amar Takhar 2025-09-05T03:01:04.159Z

changed the description

4.2.1.22 2855 - Next generation of RTEMS documentation

Id	2855
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-12-21T14:07:00.000Z
Updated	2025-09-19T01:32:51.353Z
Milestone	5.1
Labels	doc, old-indefinite, priority::normal, resolution::invalid, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2855
Merges	0

Original author: sebastian.huber

The RTEMS documentation is inconsistent, confusing and outdated. This is the master ticket to define the next generation of RTEMS documentation. Individual work packages should be done in separate tickets.

Documentation audience

Who are the consumers of RTEMS documentation?

Users:: People developing applications with RTEMS.

Developers:: People doing RTEMS development, e.g. add/maintain BSPs, CPU ports, tools, etc.

Standards:: Some documentation must be provided simply because some standard may require it.

Reviewers:: People that review RTEMS to figure out if documentation, source code and executed test programs harmonize and meet certain conditions.

Existing documentation

4.2.1.22.2.1 README files

2854

4.2.1.22.3.1 Documents

What to do with the following documents?

- Getting Started with RTEMS
- RTEMS Applications C User's Guide
- RTEMS POSIX API User's Guide
- RTEMS TCP/IP Networking Supplement
- RTEMS Shell User's Guide
- RTEMS Applications Ada User's Guide
- RTEMS BSP and Device Driver Development Guide
- RTEMS CPU Architecture Supplement
- RTEMS Development Environment Guide
- RTEMS Porting Guide
- RTEMS POSIX 1003.1 Compliance Guide
- RTEMS Filesystem Design Guide

4.2.1.22.3.2 Wiki

Purpose?

4.2.1.22.3.3 Doxygen

Purpose?

Duplicates with user manual?

Availability

Where is the documentation available?

Provide automatic documentation generation?

Standard compliance

How do deal with standard compliance, e.g. [ECSS|md_0_8208|E|md_0_8208|ST|md_0_8208|40C?](#)

Some standards require an excessive amount of documents. One option to simplify this would be a XML file which defines and documents the RTEMS interfaces (data types, functions, defines, macros, etc.) and then use a generator to produce header (maybe even with Doxygen comments) files, documentation files and also test cases.

Author: Chris Johns 2016-12-22T00:34:09.000Z

Original author: sebastian.huber

In regards to the ESA link, the license needs some clarification. We have ECSS members and non-members and it is not clear to me what the actual intent of the license is. Also accessing the docs needs a login and password and I am not sure what is involved in getting them, however RTEMS is open source so should we reference “behind a wall” docs? I would prefer we do not if that can be done.

The wiki needs to be general and contain information not version or release specific information. We cannot snapshot the wiki and provide it as part of a release. Take for example the removal of the SIS BSP in 4.12, that BSP still exists in 4.11, 4.10 etc, so if the BSP documentation, generated, post processed or otherwise is in the wiki do you delete all references to the SIS in the wiki so the content is valid for 4.12 or do we leave the information in the wiki for those 4.11, 4.10, etc users who still have that BSP. A wiki great for developer documentation and workflows, or fluid things like a step through of booting a PC with PXE, iPXE, etc to RTEMS.

Doxygen. I do not agree with formal API documentation being generated from the source for users. A user manual for a formal API needs to be user focused with all error, conditions of use, and real examples. An API interface is a formal contract between the developers of RTEMS and users that these interfaces are stable and do not change. There will be duplication for API functions however I do not see this as a problem because the churn on these interfaces should be almost nothing. For internal or developer documentation doxygen is great, there are others such as Linux Kernel Cross-Reference (LXR). I use <http://fxr.watson.org/> from time to time.

Finally I would like say how excited I am by the chat, tickets and focus on the documentation. If getting the docs with what ever content into Sphinx has helped start this process then I am happy.

Author: Trac Migrate 2016-12-23T08:34:04.000Z

Original author: sebastian.huber

Replying to [chrisj](#):

In regards to the ESA link, the license needs some clarification. We have ECSS members and non-members and it is not clear to me what the actual intent of the license is. Also accessing the docs needs a login and password and I am not sure what is involved in getting them, however RTEMS is open source so should we reference “behind a wall” docs? I would prefer we do not if that can be done.

I think everyone can get access to this site. You are probably not allowed to redistribute the documents without permission.

Other standards are more difficult to access, e.g. IEC 61508 or DO-178B.

The wiki needs to be general and contain information not version or release specific information. We cannot snapshot the wiki and provide it as part of a release. Take for example the removal of the SIS BSP in 4.12, that BSP still exists in 4.11, 4.10 etc, so if the BSP documentation, generated, post processed or otherwise is in the wiki do you delete all references to the SIS in the wiki so the content is valid for 4.12 or do we leave the information in the wiki for those 4.11, 4.10, etc users who still have that BSP. A wiki great for developer documentation and workflows, or fluid things like a step through of booting a PC with PXE, iPXE, etc to RTEMS.

Ok, so the BSP pages from the wiki should move into BSP README files.

Doxygen. I do not agree with formal API documentation being generated from the source for users. A user manual for a formal API needs to be user focused with all error, conditions of use, and real examples. An API interface is a formal contract between the developers of RTEMS and users that these interfaces are stable and do not change. There will be duplication for API functions however I do not see this as a problem because the churn on these interfaces should be almost nothing. For internal or developer documentation doxygen is great, there are others such as Linux Kernel Cross-Reference (LXR). I use <http://fxr.watson.org/> from time to time.

It would be really nice to generate the header files with Doxygen comments and the sphinx parts from one common file, e.g. in XML. This could be also used to contain the specification and test cases.

Finally I would like say how excited I am by the chat, tickets and focus on the documentation. If getting the docs with what ever content into Sphinx has helped start this process then I am happy.

Author: Trac Migrate 2016-12-23T09:04:09.000Z

Original author: sebastian.huber

Including BSP README files from the source directory in a sphinx document seems to be a bit hard:

<http://stackoverflow.com/questions/10199233/can-sphinx-link-to-documents-that-are-not-located-in-d>

Author: Trac Migrate 2016-12-23T09:04:23.000Z

Original author: sebastian.huber

What are the hard technical reasons to have a separate documentation repository?

Author: Trac Migrate 2016-12-23T09:52:29.000Z

Original author: sebastian.huber

I propose to do the following:

1. Move the documentation back into the RTEMS sources.
2. Move the BSP README files to the documentation directory into the CPU Supplement.

Author: Chris Johns 2017-01-04T23:16:51.000Z

Original author: sebastian.huber

Replying to [sebastian.huber](#):

I propose to do the following: 1. Move the documentation back into the RTEMS sources.

Please do not. There is more to the project's documentation than the kernel and doing this would result in commit churn.

How a user uses the RSB or Eclipse is valid user documentation and it is not related to the kernel. Having this type of documentation in the unrelated kernel source repo would cause 2-way commit churn where user doc changes unrelated to the kernel would require buildbot rebuilds of the kernel and kernel changes would require documentation rebuilds.

For me having the documentation source in the kernel source tree so a specific part of the documentation could be automatically updated is a questionable small gain at a larger cost. I question any formal user API documentation we have being automatically generated this way for a few reasons. It becomes difficult to audit changes because you need to de-reference the location in the documentation source to the location in the kernel source tree and I feel formal user API interfaces should be fixed and cannot change without careful consideration rather than being seen as kernel source file changes. Second, we have more than

one place documentation can be located which means more complexity in how we maintain the documentation, and finally we would need to find a suitable format for use because there is no tool I know of that can do a suitable doxygen type extraction to ReST.

2. Move the BSP README files to the documentation directory into the CPU Supplement.

I wonder if we should have a single document for BSPs and this be a chapter. I do not see a need for lots of separated manuals.

Author: Trac Migrate 2017-01-05T09:31:14.000Z

Original author: sebastian.huber

Replying to [chrisj](#):

Replying to [sebastian.huber](#):

I propose to do the following: 1. Move the documentation back into the RTEMS sources.

Please do not. There is more to the project's documentation than the kernel and doing this would result in commit churn. How a user uses the RSB or Eclipse is valid user documentation and it is not related to the kernel. Having this type of documentation in the unrelated kernel source repo would cause 2-way commit churn where user doc changes unrelated to the kernel would require buildbot rebuilds of the kernel and kernel changes would require documentation rebuilds.

Is this a hard buildbot limitation? Why can't you teach buildbot that there are separate build systems/components in different directories? We don't have that many commits per second. Is this a real problem?

I would even consider to move all parts that are required to work with RTEMS and that are maintained by the RTEMS project into one repository, e.g. the RSB and the RTEMS Tools.

For me having the documentation source in the kernel source tree so a specific part of the documentation could be automatically updated is a questionable small gain at a larger cost. I question any formal user API documentation we have being automatically generated this way for a few reasons. It becomes difficult to audit changes because you need to de-reference the location in the documentation source to the location in the kernel source tree and I feel formal user API interfaces should be fixed and cannot change without careful consideration rather than being seen as kernel source file changes. Second, we have more than one place documentation can be located which means more complexity in how we maintain the documentation, and finally we would need to find a suitable format for use because there is no tool I know of that can do a suitable doxygen type extraction to ReST.

For the space qualification of RTEMS SMP we have to produce a lot of different documents. I didn't spend much time to this topic so far, but I guess that without automatic generation from a common source (XML documents) this will be infeasible to deliver.

2. Move the BSP README files to the documentation directory into the CPU Supplement.

I wonder if we should have a single document for BSPs and this be a chapter. I do not see a need for lots of separated manuals.

Yes, we definitely have to reduce the amount of different documents. Maybe we should move the BSP stuff into the getting started guide. Somewhere there should be a list of supported chips/boards (section) grouped by architecture (chapter). The quirks, build options, and so on (subsections) should be available for each BSP.

Author: Chris Johns 2017-01-05T21:52:27.000Z

Original author: sebastian.huber

Replying to [sebastian.huber](#):

Replying to [chrisj](#):

Replying to [sebastian.huber](#):

I propose to do the following: 1. Move the documentation back into the RTEMS sources.

Please do not. There is more to the project's documentation than the kernel and doing this would result in commit churn. How a user uses the RSB or Eclipse is valid user documentation and it is not related to the kernel. Having this type of documentation in the unrelated kernel source repo would cause 2-way commit churn where user doc changes unrelated to the kernel would require buildbot rebuilds of the kernel and kernel changes would require documentation rebuilds.

Is this a hard buildbot limitation? Why can't you teach buildbot that there are separate build systems/components in different directories? We don't have that many commits per second. Is this a real problem?

Currently yes it is. This adds extra complexity to something we have not got working and I am concerned about adding extra complexity.

I would even consider to move all parts that are required to work with RTEMS and that are maintained by the RTEMS project into one repository, e.g. the RSB and the RTEMS Tools.

I suppose you mean creating a **world** repo. I can see this being possible once the autotools build system goes and we have switched to waf. Doing so before that happens would create a level of complexity I would not like to consider. As you say we could move the RSB, RTEMS Tools, examples into a single repo. I am not sure about networking, ie the legacy and libbsd stacks, plus third party packages. They would need some sort of ports database.

I would like to add moving to an **RTEMS world** is a different topic and bringing the docs repo into a single “world” repo makes more sense. I see doing this now as premature.

For me having the documentation source in the kernel source tree so a specific part of the documentation could be automatically updated is a questionable small gain at a larger cost. I question any formal user API documentation we have being automatically generated this way for a few reasons. It becomes difficult to audit changes because you need to de-reference the location in the documentation source to the location in the kernel source tree and I feel formal user API interfaces should be fixed and cannot change without careful consideration rather than being seen as kernel source file changes. Second, we have more than one place documentation can be located which means more complexity in how we maintain the documentation, and finally we would need to find a suitable format for use because there is no tool I know of that can do a suitable doxygen type extraction to ReST.

For the space qualification of RTEMS SMP we have to produce a lot of different documents.

It is difficult to discuss something like qualification documentation when we do not know what is needed. I doubt qualification documentation requires a suitable Getting Started Guide or how to use Eclipse, these are user focused. In relation to qualification artifact generation we should endeavor to build into our processes and tools support to generate the data the artifacts need, for example the XML reports created by the RSB.

I didn't spend much time to this topic so far, but I guess that without automatic generation from a common source (XML documents) this will be infeasible to deliver.

Sorry, I do not know what you mean by a common source and XML documents. I do not know what the requirements are you are considering here.

If qualifying requires extra information that is internal then it can be automatically generated from source. Again I would like to make a clear distinction between user API documentation and anything internal. They are not the same thing and do not or even should not be grouped together.

2. Move the BSP README files to the documentation directory into the CPU Supplement.

I wonder if we should have a single document for BSPs and this be a chapter. I do not see a need for lots of separated manuals.

Yes, we definitely have to reduce the amount of different documents. Maybe we should move the BSP stuff into the getting started guide. Somewhere there should be a list of supported chips/boards (section) grouped by architecture (chapter). The quirks, build options, and so on (subsections) should be available for each BSP.

Should BSPs be a section in the User Manual?

I am currently adding a Host Tools section to cover `rtems-ld`, `rtems-exeinfo`, `rtems-syms`, and `rtems-tld`. Then I will be adding a section on Applications to cover that topic.

Author: Chris Johns 2017-08-14T00:55:55.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.0" to %"4.12.0"

Please review and update the milestone. Thanks.

Author: Trac Migrate 2017-08-24T08:22:55.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"Indefinite"
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Joel Sherrill 2021-04-20T18:42:25.000Z

Original author: sebastian.huber

This ticket hasn't had a comment in approaching four years. A lot of documentation work has been done. This doesn't appear to have a specific goal which would allow it to ever close.

What to do with it?

Author: Trac Migrate 2021-04-22T05:20:40.000Z

Original author: sebastian.huber

- **Resolution** set to ~"invalid"
- **Status** changed from *assigned* to *closed*

The goals of the ticket are too unspecific.

Author: Amar Takhar 2025-09-05T02:57:37.714Z

changed the description

4.2.1.23 2804 - Add http(s) paths to git.rtems.org repos

Id	2804
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-11-07T09:35:09.000Z
Updated	2025-09-19T01:32:51.188Z
Milestone	5.1
Labels	priority::normal, resolution::wontfix, tickettype::infra, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2804
Merges	0

Original author: claudiocsilva

The git:// protocol used in RTEMS git repositories is blocked by most corporate firewalls. As a result, institutional RTEMS users need to resort to access RTEMS repositories through github or to hack a way around to access git://. A preferred solution would be to have http(s):// paths for cloning RTEMS repositories in git.rtems.org. This would greatly simplify RTEMS users' lives.

(ticket origin: mail thread “Building RTEMS 4.11.0 RC4 for i386 targets”)

Author: Chris Johns 2017-08-14T00:57:51.000Z

Original author: claudiiodcsilva

- **Resolution** set to ~”wontfix”
- **Status** changed from *new* to *closed*

Use github.

Author: Chris Johns 2025-09-19T01:32:51.250Z

changed the description

4.2.1.24 2686 - ICE with epiphany

Id	2686
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Closed by	Kinsey Moore
Created	2016-04-09T15:53:31.000Z
Closed	2025-01-31T17:23:44.948Z
Updated	2025-09-19T01:32:51.078Z
Milestone	5.1
Labels	old-indefinite, priority::normal, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2686
Merges	0

```
$ epiphany-rtems4.12-gcc -version epiphany-rtems4.12-gcc (GCC) 4.9.0 20140411
(RTEMS 4.12, RSB 648e2d5d6c308227c456434238da5f3f881bddc7, Newlib
8b1ede3ce11d53292036aadfcfb6043df0235f9c)
```

Here is the output from the log.

```
epiphany-rtems4.12-gcc -pipe -DHAVE_CONFIG_H -I. -
I./../cpukit/./.././epiphany_sim/lib/include -DNO_SSL -DNO_POPEN -DNO_CGI -
DUSE_WEBSOCKET -OO -g -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes
-Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT libmghttpd_a-
mongoose.o -MD -MP -MF .deps/libmghttpd_a-mongoose.Tpo -c -o libmghttpd_a-mongoose.o
`test -f 'mongoose.c' || echo './.././.././.././../rtems/c/src/./../cpukit/mghttpd/'` mongoose.c
./.././.././.././../rtems/c/src/./../cpukit/mghttpd/mongoose.c: In function
'cry':
./.././.././.././../rtems/c/src/./../cpukit/mghttpd/mongoose.c:674:1:
```

```

internal compiler error: in epiphany_expand_prologue, at con-
fig/epiphany/epiphany.c:1913 } ^ 0x935e1c epiphany_expand_prologue() ../../epiphany-
gcc-f7051762470c42ce7f01baa7edeb113d51c7dd72/gcc/config/epiphany/epiphany.c:1911
0x94999a gen_prologue() ../../epiphany-gcc-f7051762470c42ce7f01baa7edeb113d51c7dd72/gcc/config/epi
0x5c86fe thread_prologue_and_epilogue_insns ../../epiphany-gcc-
f7051762470c42ce7f01baa7edeb113d51c7dd72/gcc/function.c:5940
0x5c86fe rest_of_handle_thread_prologue_and_epilogue ../../epiphany-gcc-
f7051762470c42ce7f01baa7edeb113d51c7dd72/gcc/function.c:6992 0x5c86fe execute
../../epiphany-gcc-f7051762470c42ce7f01baa7edeb113d51c7dd72/gcc/function.c:7032
Please submit a full bug report, with preprocessed source if appropriate. Please include the
complete backtrace with any bug report. See <http://gcc.gnu.org/bugs.html> for instructions.
gmake[5]: *** [libmghttpd_a-mongoose.o] Error 1 gmake[5]: Target `all' not remade because
of errors.

```

Author: Trac Migrate 2017-02-15T14:20:42.000Z

- **Milestone** changed from %"4.12" to %"Indefinite"
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Kinsey Moore 2025-01-31T17:23:44.523Z

Closing since epiphany was removed in 6 release.

Author: Kinsey Moore 2025-01-31T17:23:45.216Z

changed the description

4.2.1.25 2675 - Remove unused libchip configuration parameters

Id	2675
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-03-22T18:27:51.000Z
Updated	2025-09-19T01:32:50.963Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::wontfix, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2675
Merges	0

The ulMargin and ulHysteresis parameters in the libchip serial configuration table do not appear to ever be used. This ticket is to remove them.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

Author: Trac Migrate 2017-06-08T08:26:18.000Z

- **Milestone** changed from %”4.12.0” to %”Indefinite”
- **Resolution** set to ~”wontfix”
- **Status** changed from *new* to *closed*

The libchip serial drivers should be converted to use the new Termios device API. Here each driver can have its own data structure and there is no need for a one configuration fits every device approach.

Author: Amar Takhar 2025-09-05T03:02:30.804Z

changed the description

4.2.1.26 2620 - Setup Buildbot

Id	2620
State	closed
Type	ISSUE
Author	Amar Takhar
Assignee(s)	Trac Migrate
Created	2016-03-02T14:30:00.000Z
Updated	2025-09-19T01:32:50.860Z
Milestone	5.1
Labels	old-indefinite, priority::high, resolution::invalid, tickettype::infra, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2620
Merges	0

BuildBot needs to be running for milestone:4.12

I will implement it using:

- RSB for parallel bootstrap
- Create a tarball from this bootstrapped code.
- Upload to a central area
- Build ‘5’ reference BSPs that should always build
- Once the 5 clear the rest of the BSPs will start building to do a full run.

Mutex will be used for this purpose. No real ETA yet but I am working on it. I will be running this on a separate master instance of BuildBot as this will be an LTS setup.

Author: Trac Migrate 2017-01-26T07:16:00.000Z

- **Milestone** changed from %”4.11.1” to %”4.11.2”

Author: Trac Migrate 2017-02-15T13:37:51.000Z

- **Milestone** changed from %"4.11.2" to %"Indefinite"
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Amar Takhar 2023-01-19T16:32:06.000Z

- **Resolution** set to ~"invalid"
- **Status** changed from *assigned* to *closed*

Close this in lieu of [#4791](#)

Author: Amar Takhar 2025-09-05T02:57:37.293Z

changed the description

4.2.1.27 2577 - Complete per-function section addition sweep

Id	2577
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-02-06T16:45:48.000Z
Updated	2025-09-19T01:32:50.771Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2577
Merges	0

As part of the GCI task described at <https://devel.rtems.org/wiki/GCI/Coding/AddPerSectionSupportToBSPs>, most BSPs were reviewed for the addition of per function section compilation and linking. This ticket is to complete that sweep.

Use [#2572](#) as a guide for the new ticket. Just copy the contents and change the title to reflect the different BSP. Use the commented out lines for the mcf5206elite BSP make/custom file as a guide. Short version:

- Do the GCI task for each BSP family listed below. Follow the format for the commit message.
- If the BSP has KEEP sections and `cxx_iostream` does not drop a suspiciously large amount, then the modification should be OK to be merged.
- If the BSP does NOT have KEEP sections, then a BSP specific ticket should be filed and the per-function section build lines commented out in the `.cfg` file with a `FIXME` line and the ticket number.

- When done, update the associated ticket for the BSP family as needed. It should be closed as a side-effect of committing any fixes so do NOT manually close them.

Follow the instructions in that GCI task with the addition that you should be EXTREMELY cautious in reviewing the size drop and whether the BSP linker script has KEEP sections. If the BSP does not have KEEP sections file a ticket to track it.

Be very careful to follow the existing patterns for tickets, commit messages, and code changes such as [#2579](#) for the powerpc/motorola_powerpc. At the bottom of this text is a current list of “BSP families” which an automated search shows as missing per-function section linking.

Some of these may already be implemented and just need to be reviewed and closed. Close this ticket when they are all done

The following tickets are for BSPs which still need per function sections:

[\[keywords=~KEEP|~function+sections,order=priority\)\]](#)

NONE

The full set of BSPs impacted by this ticket is:

[\[TicketQuery\(keywords=~KEEP|~function+sections,order=priority\)\)\]](#)

Author: Trac Migrate 2016-02-08T18:55:33.000Z

powerpc/motorola_powerpc -> [#2579](#)

Author: Joel Sherrill 2016-02-08T19:25:10.000Z

- **Description** changed

```

1 As part of the GCI task described at https://devel.rtems.org/wiki/GCI/
  ↳ Coding/AddPerSectionSupportToBSPs, most BSPs were reviewed for the
  ↳ addition of per function section compilation and linking. This ticket
  ↳ is to complete that sweep.
2
3 Follow the instructions in that GCI task with the addition that you
  ↳ should be EXTREMELY cautious in reviewing the size drop and whether
  ↳ the BSP linker script has KEEP sections. If the BSP does not have
  ↳ KEEP sections file a ticket to track it.
4
5 Use #2572 as a guide for the new ticket. Just copy the contents and
  ↳ change the title to reflect the different BSP. Use the commented out
  ↳ lines for the mcf5206elite BSP make/custom file as a guide.
6
7 Short version:
8
9 * Do the GCI task for each BSP family listed below. Follow the format
  ↳ for the commit message.
10
  ↳ * If the BSP has KEEP sections and cxx_iostream does not drop a
  ↳ suspiciously large amount, then the modification should be OK to be
  ↳ merged.
```

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```

11 * If the BSP does NOT have KEEP sections, then a BSP specific ticket_
    ↳ should be filed and the per-function section build lines commented_
    ↳ out in the .cfg file with a FIXME line and the ticket number.
12 * When done, update this ticket so the BSP family either says "done" or_
    ↳ has a ticket number next to it. We need to track the remaining set to_
    ↳ sweep this into.
13
14 Be very careful to follow the existing patterns for tickets, commit_
    ↳ messages, and code changes.
15 arm/lpc24xx
16 arm/lpc32xx
17 arm/raspberrypi
18 arm/realview-pbx-a9
19 arm/rtl22xx
20 arm/smdk2410
21 arm/stm32f4
22 arm/tms570
23 arm/xilinx-zynq
24 bfin/bf537Stamp
25 bfin/eZKit533
26 bfin/TLL6527M
27 epiphany/epiphany_sim
28 i386/pc386
29 lm32/lm32_evr
30 lm32/milkymist
31 m32c/m32cbasp
32 nios2/nios2_iss
33 or1k/generic_or1k
34 - powerpc/motorola_powerpc
35 + powerpc/motorola_powerpc - #2579
36 ?                ++++++++
37
38 sh/gensh1
39 sh/gensh2
40 sh/gensh4
41 sh/shsim
42 sparc64/niagara
43 sparc64/usiii
44 v850/gdbv850sim

```

Author: Joel Sherrill 2016-03-11T22:35:00.000Z

Review requested to ensure ticket should be closed.

Author: Trac Migrate 2017-02-15T13:49:47.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-08-24T05:59:58.000Z

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Joel Sherrill 2018-09-14T19:07:55.000Z

- **Description** changed

```

1 As part of the GCI task described at https://devel.rtems.org/wiki/GCI/
  ↳ Coding/AddPerSectionSupportToBSPs, most BSPs were reviewed for the
  ↳ addition of per function section compilation and linking. This ticket
  ↳ is to complete that sweep.
2
3 Follow the instructions in that GCI task with the addition that you
  ↳ should be EXTREMELY cautious in reviewing the size drop and whether
  ↳ the BSP linker script has KEEP sections. If the BSP does not have
  ↳ KEEP sections file a ticket to track it.
4 +
5
6 Use #2572 as a guide for the new ticket. Just copy the contents and
  ↳ change the title to reflect the different BSP. Use the commented out
  ↳ lines for the mcf5206elite BSP make/custom file as a guide.
7
8 Short version:
9
10 * Do the GCI task for each BSP family listed below. Follow the format
  ↳ for the commit message.
11 * If the BSP has KEEP sections and cxx_iostream does not drop a
  ↳ suspiciously large amount, then the modification should be OK to be
  ↳ merged.
12 * If the BSP does NOT have KEEP sections, then a BSP specific ticket
  ↳ should be filed and the per-function section build lines commented
  ↳ out in the .cfg file with a FIXME line and the ticket number.
13 * When done, update this ticket so the BSP family either says "done" or
  ↳ has a ticket number next to it. We need to track the remaining set to
  ↳ sweep this into.
14
15 Be very careful to follow the existing patterns for tickets, commit
  ↳ messages, and code changes.
16 +
17 - arm/lpc24xx
18 + * arm/lpc24xx
19 ? ++
20
21 - arm/lpc32xx

```

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```
22 + * arm/lpc32xx
23 ? ++
24
25 - arm/raspberrypi
26 + * arm/raspberrypi
27 ? ++
28
29 - arm/realview-pbx-a9
30 + * arm/realview-pbx-a9
31 ? ++
32
33 - arm/rtl22xx
34 + * arm/rtl22xx
35 ? ++
36
37 - arm/smdk2410
38 + * arm/smdk2410
39 ? ++
40
41 - arm/stm32f4
42 + * arm/stm32f4
43 ? ++
44
45 - arm/tms570
46 + * arm/tms570
47 ? ++
48
49 - arm/xilinx-zynq
50 + * arm/xilinx-zynq
51 ? ++
52
53 - bfin/bf537Stamp
54 + * bfin/bf537Stamp
55 ? ++
56
57 - bfin/eZKit533
58 + * bfin/eZKit533
59 ? ++
60
61 - bfin/TLL6527M
62 + * bfin/TLL6527M
63 ? ++
64
65 - epiphany/epiphany_sim
66 + * epiphany/epiphany_sim
67 ? ++
68
69 - i386/pc386
70 + * i386/pc386
```

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```
71 ? ++
72
73 - lm32/lm32_evr
74 + * lm32/lm32_evr
75 ? ++
76
77 - lm32/milkymist
78 + * lm32/milkymist
79 ? ++
80
81 - m32c/m32cbasp
82 + * m32c/m32cbasp
83 ? ++
84
85 - nios2/nios2_iss
86 + * nios2/nios2_iss
87 ? ++
88
89 - or1k/generic_or1k
90 + * or1k/generic_or1k
91 ? ++
92
93 - powerpc/motorola_powerpc - #2579
94 + * powerpc/motorola_powerpc - #2579
95 ? ++
96
97 - sh/gensh1
98 + * sh/gensh1
99 ? ++
100
101 - sh/gensh2
102 + * sh/gensh2
103 ? ++
104
105 - sh/gensh4
106 + * sh/gensh4
107 ? ++
108
109 - sh/shsim
110 + * sh/shsim
111 ? ++
112
113 - sparc64/niagara
114 + * sparc64/niagara
115 ? ++
116
117 - sparc64/usiii
118 + * sparc64/usiii
119 ? ++
```

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```

120
121 - v850/gdbv850sim
122 + * v850/gdbv850sim
123 ? ++
124
125 +

```

Author: Joel Sherrill 2018-09-14T19:39:55.000Z

- **Description** changed

```

1 As part of the GCI task described at https://devel.rtems.org/wiki/GCI/
  ↳ Coding/AddPerSectionSupportToBSPs, most BSPs were reviewed for the
  ↳ addition of per function section compilation and linking. This ticket
  ↳ is to complete that sweep.
2 +
3 + Use #2572 as a guide for the new ticket. Just copy the contents and
  ↳ change the title to reflect the different BSP. Use the commented out
  ↳ lines for the mcf5206elite BSP make/custom file as a guide. Short
  ↳ version:
4 +
5 + * Do the GCI task for each BSP family listed below. Follow the format
  ↳ for the commit message.
6 +
7 + * If the BSP has KEEP sections and cxx_iostream does not drop a
  ↳ suspiciously large amount, then the modification should be OK to be
  ↳ merged.
8 +
9 + * If the BSP does NOT have KEEP sections, then a BSP specific ticket
  ↳ should be filed and the per-function section build lines commented
  ↳ out in the .cfg file with a FIXME line and the ticket number.
10 +
11 + * When done, update the associated ticket for the BSP family as
  ↳ needed. It should be closed as a side-effect of committing any fixes
  ↳ so do NOT manually close them.
12
13 Follow the instructions in that GCI task with the addition that you
  ↳ should be EXTREMELY cautious in reviewing the size drop and whether
  ↳ the BSP linker script has KEEP sections. If the BSP does not have
  ↳ KEEP sections file a ticket to track it.
14
15 + Be very careful to follow the existing patterns for tickets, commit
  ↳ messages, and code changes such as #2579 for the powerpc/motorola
  ↳ powerpc. At the bottom of this text is a current list of "BSP families
  ↳ " which an automated search shows as missing per-function section
  ↳ linking.
16 +
17

```

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```

18 - Use #2572 as a guide for the new ticket. Just copy the contents and
    ↳ change the title to reflect the different BSP. Use the commented out
    ↳ lines for the mcf5206elite BSP make/custom file as a guide.
19 + FIXME: Inline this query.
20 + The tickets associated with this activity are shown here: https://
    ↳ devel.rtems.org/query?status=!closed&keywords=~KEEP
21
22 - Short version:
23 + Some of these may already be implemented and just need to be reviewed
    ↳ and closed. Close this ticket when they are all done
24
25 + The following BSPs were shown to need per function sections by an
    ↳ automated search on 14 September 2018
26 - * Do the GCI task for each BSP family listed below. Follow the format
    ↳ for the commit message.
27 - * If the BSP has KEEP sections and cxx_iostream does not drop a
    ↳ suspiciously large amount, then the modification should be OK to be
    ↳ merged.
28 - * If the BSP does NOT have KEEP sections, then a BSP specific ticket
    ↳ should be filed and the per-function section build lines commented
    ↳ out in the .cfg file with a FIXME line and the ticket number.
29 - * When done, update this ticket so the BSP family either says "done"
    ↳ or has a ticket number next to it. We need to track the remaining set
    ↳ to sweep this into.
30
31 - Be very careful to follow the existing patterns for tickets, commit
    ↳ messages, and code changes.
32 + * m68k/av5282 - #2574
33 + * m68k/gen68340 - #2573
34 + * m68k/gen68360 - #2566
35 + * m68k/mcf5235 - #2571
36 + * m68k/mcf5329 - #2569
37 + * m68k/mcf5206elite - #2572
38 + * m68k/mrm332 - #2567
39 + * m68k/mcf5225x - #2568
40 + * m68k/uC5282 - #2575
41 + * powerpc/haleakala - #2561
42 + * powerpc/mpc8260ads - #2565
43 + * powerpc/qemuppc - #2564
44 + * powerpc/ss555 - #2563
45
46 - * arm/lpc24xx
47 - * arm/lpc32xx
48 - * arm/raspberrypi
49 - * arm/realview-pbx-a9
50 - * arm/rtl22xx
51 - * arm/smdk2410
52 - * arm/stm32f4
53 - * arm/tms570

```

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```

54 - * arm/xilinx-zynq
55 - * bfin/bf537Stamp
56 - * bfin/eZKit533
57 - * bfin/TLL6527M
58 - * epiphany/epiphany_sim
59 - * i386/pc386
60 - * lm32/lm32_evr
61 - * lm32/milkymist
62 - * m32c/m32cbasp
63 - * nios2/nios2_iss
64 - * or1k/generic_or1k
65 - * powerpc/motorola_powerpc - #2579
66 - * sh/gensh1
67 - * sh/gensh2
68 - * sh/gensh4
69 - * sh/shsim
70 - * sparc64/niagara
71 - * sparc64/usiii
72 - * v850/gdbv850sim
73 -

```

Author: Amar Takhar 2018-09-14T22:02:14.000Z

- **Description** changed

```

1 As part of the GCI task described at https://devel.rtems.org/wiki/GCI/
  ↳ Coding/AddPerSectionSupportToBSPs, most BSPs were reviewed for the
  ↳ addition of per function section compilation and linking. This ticket
  ↳ is to complete that sweep.
2
3 Use #2572 as a guide for the new ticket. Just copy the contents and
  ↳ change the title to reflect the different BSP. Use the commented out
  ↳ lines for the mcf5206elite BSP make/custom file as a guide. Short
  ↳ version:
4
5 * Do the GCI task for each BSP family listed below. Follow the format
  ↳ for the commit message.
6
7 * If the BSP has KEEP sections and cxx_iostream does not drop a
  ↳ suspiciously large amount, then the modification should be OK to be
  ↳ merged.
8
9 * If the BSP does NOT have KEEP sections, then a BSP specific ticket
  ↳ should be filed and the per-function section build lines commented
  ↳ out in the .cfg file with a FIXME line and the ticket number.
10
11 * When done, update the associated ticket for the BSP family as needed.
  ↳ It should be closed as a side-effect of committing any fixes so do NOT

```

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```

12 ↪ manually close them.
13 Follow the instructions in that GCI task with the addition that you
14 ↪ should be EXTREMELY cautious in reviewing the size drop and whether
15 ↪ the BSP linker script has KEEP sections. If the BSP does not have
16 ↪ KEEP sections file a ticket to track it.
17
18 Be very careful to follow the existing patterns for tickets, commit
19 ↪ messages, and code changes such as #2579 for the powerpc/motorola_
20 ↪ powerpc. At the bottom of this text is a current list of "BSP families
21 ↪ " which an automated search shows as missing per-function section
22 ↪ linking.
23
24 FIXME: Inline this query.
25 The tickets associated with this activity are shown here: https://devel.
26 ↪ rtems.org/query?status=!closed&keywords=~KEEP
27
28 Some of these may already be implemented and just need to be reviewed
29 ↪ and closed. Close this ticket when they are all done
30
31 The following BSPs were shown to need per function sections by an
32 ↪ automated search on 14 September 2018
33
34 + [[keywords=~KEEP|~function+sections,order=priority]](..//wikis/
35 ↪ TicketQuery(status=accepted|assigned|new|reopened,))
36 - * m68k/av5282 - #2574
37 - * m68k/gen68340 - #2573
38 - * m68k/gen68360 - #2566
39 - * m68k/mcf5235 - #2571
40 - * m68k/mcf5329 - #2569
41 - * m68k/mcf5206elite - #2572
42 - * m68k/mrm332 - #2567
43 - * m68k/mcf5225x - #2568
44 - * m68k/uC5282 - #2575
45 - * powerpc/haleakala - #2561
46 - * powerpc/mpc8260ads - #2565
47 - * powerpc/qemuppc - #2564
48 - * powerpc/ss555 - #2563

```

Change static list to dynamic query.

Author: Amar Takhar 2018-09-16T02:07:52.000Z

- **Description** changed

```

1 As part of the GCI task described at https://devel.rtems.org/wiki/GCI/
2 ↪ Coding/AddPerSectionSupportToBSPs, most BSPs were reviewed for the
3 ↪ addition of per function section compilation and linking. This ticket

```

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```

2  ↪is to complete that sweep.
3  Use #2572 as a guide for the new ticket. Just copy the contents and ↪
4  ↪change the title to reflect the different BSP. Use the commented out ↪
5  ↪lines for the mcf5206elite BSP make/custom file as a guide. Short ↪
6  ↪version:
7  * Do the GCI task for each BSP family listed below. Follow the format ↪
8  ↪for the commit message.
9  * If the BSP has KEEP sections and cxx_iostream does not drop a ↪
10 ↪suspiciously large amount, then the modification should be OK to be ↪
11 ↪merged.
12 * If the BSP does NOT have KEEP sections, then a BSP specific ticket ↪
13 ↪should be filed and the per-function section build lines commented ↪
14 ↪out in the .cfg file with a FIXME line and the ticket number.
15 * When done, update the associated ticket for the BSP family as needed. ↪
16 ↪It should be closed as a side-effect of committing any fixes so do NOT ↪
17 ↪manually close them.
18 Follow the instructions in that GCI task with the addition that you ↪
19 ↪should be EXTREMELY cautious in reviewing the size drop and whether ↪
20 ↪the BSP linker script has KEEP sections. If the BSP does not have ↪
21 ↪KEEP sections file a ticket to track it.
22 Be very careful to follow the existing patterns for tickets, commit ↪
23 ↪messages, and code changes such as #2579 for the powerpc/motorola ↪
24 ↪powerpc. At the bottom of this text is a current list of "BSP families ↪
25 ↪" which an automated search shows as missing per-function section ↪
26 ↪linking.
27 -
28 - FIXME: Inline this query.
29 - The tickets associated with this activity are shown here: https://
30 ↪devel.rtems.org/query?status=!closed&keywords=~KEEP
31 -
32 Some of these may already be implemented and just need to be reviewed ↪
33 ↪and closed. Close this ticket when they are all done
34
35 The following BSPs were shown to need per function sections by an ↪
36 ↪automated search on 14 September 2018
37
38 [[keywords=~KEEP|~function+sections,order=priority]](../wikis/
39 ↪TicketQuery(status=accepted|assigned|new|reopened,))

```

Remove 'FIX ME' comment.

Author: Joel Sherrill 2018-09-25T19:26:13.000Z

- **Description** changed

```

1 As part of the GCI task described at https://devel.rtems.org/wiki/GCI/
  ↳ Coding/AddPerSectionSupportToBSPs, most BSPs were reviewed for the
  ↳ addition of per function section compilation and linking. This ticket
  ↳ is to complete that sweep.
2
3 Use #2572 as a guide for the new ticket. Just copy the contents and
  ↳ change the title to reflect the different BSP. Use the commented out
  ↳ lines for the mcf5206elite BSP make/custom file as a guide. Short
  ↳ version:
4
5 * Do the GCI task for each BSP family listed below. Follow the format
  ↳ for the commit message.
6
7 * If the BSP has KEEP sections and cxx_iostream does not drop a
  ↳ suspiciously large amount, then the modification should be OK to be
  ↳ merged.
8
9 * If the BSP does NOT have KEEP sections, then a BSP specific ticket
  ↳ should be filed and the per-function section build lines commented
  ↳ out in the .cfg file with a FIXME line and the ticket number.
10
11 * When done, update the associated ticket for the BSP family as needed.
  ↳ It should be closed as a side-effect of committing any fixes so do NOT
  ↳ manually close them.
12
13 Follow the instructions in that GCI task with the addition that you
  ↳ should be EXTREMELY cautious in reviewing the size drop and whether
  ↳ the BSP linker script has KEEP sections. If the BSP does not have
  ↳ KEEP sections file a ticket to track it.
14
15 Be very careful to follow the existing patterns for tickets, commit
  ↳ messages, and code changes such as #2579 for the powerpc/motorola
  ↳ powerpc. At the bottom of this text is a current list of "BSP families
  ↳ " which an automated search shows as missing per-function section
  ↳ linking.
16
17 Some of these may already be implemented and just need to be reviewed
  ↳ and closed. Close this ticket when they are all done
18
19 - The following BSPs were shown to need per function sections by an
  ↳ automated search on 14 September 2018
20 + The following tickets are for BSPs which need per function sections:
21
22 [[keywords=~KEEP|~function+sections,order=priority]](..../wikis/
  ↳ TicketQuery(status=accepted|assigned|new|reopened,)]

```

Author: Joel Sherrill 2018-11-30T14:40:05.000Z

- **Description** changed

```

1 As part of the GCI task described at https://devel.rtems.org/wiki/GCI/
  ↳ Coding/AddPerSectionSupportToBSPs, most BSPs were reviewed for the
  ↳ addition of per function section compilation and linking. This ticket
  ↳ is to complete that sweep.
2
3 Use #2572 as a guide for the new ticket. Just copy the contents and
  ↳ change the title to reflect the different BSP. Use the commented out
  ↳ lines for the mcf5206elite BSP make/custom file as a guide. Short
  ↳ version:
4
5 * Do the GCI task for each BSP family listed below. Follow the format
  ↳ for the commit message.
6
7 * If the BSP has KEEP sections and cxx_iostream does not drop a
  ↳ suspiciously large amount, then the modification should be OK to be
  ↳ merged.
8
9 * If the BSP does NOT have KEEP sections, then a BSP specific ticket
  ↳ should be filed and the per-function section build lines commented
  ↳ out in the .cfg file with a FIXME line and the ticket number.
10
11 * When done, update the associated ticket for the BSP family as needed.
  ↳ It should be closed as a side-effect of committing any fixes so do NOT
  ↳ manually close them.
12
13 Follow the instructions in that GCI task with the addition that you
  ↳ should be EXTREMELY cautious in reviewing the size drop and whether
  ↳ the BSP linker script has KEEP sections. If the BSP does not have
  ↳ KEEP sections file a ticket to track it.
14
15 Be very careful to follow the existing patterns for tickets, commit
  ↳ messages, and code changes such as #2579 for the powerpc/motorola
  ↳ powerpc. At the bottom of this text is a current list of "BSP families
  ↳ " which an automated search shows as missing per-function section
  ↳ linking.
16
17 Some of these may already be implemented and just need to be reviewed
  ↳ and closed. Close this ticket when they are all done
18
19 - The following tickets are for BSPs which need per function sections:
20 + The following tickets are for BSPs which still need per function
  ↳ sections:
21 ?          ++++++
22
23
24 [[keywords=~KEEP|~function+sections,order=priority)](../wikis/

```

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```

25 ↪TicketQuery(status=accepted|assigned|new|reopened,)]
26 + The full set of BSPs impacted by this ticket is:
27 +
28 + [[TicketQuery(keywords=~KEEP|~function+sections,
    ↪order=priority)](TicketQuery(keywords=~KEEP|~function+sections,
    ↪order=priority))]

```

Author: Joel Sherrill 2018-11-30T20:14:04.000Z

- **Description** changed

```

1 As part of the GCI task described at https://devel.rtems.org/wiki/GCI/
  ↪Coding/AddPerSectionSupportToBSPs, most BSPs were reviewed for the
  ↪addition of per function section compilation and linking. This ticket
  ↪is to complete that sweep.
2
3 Use #2572 as a guide for the new ticket. Just copy the contents and
  ↪change the title to reflect the different BSP. Use the commented out
  ↪lines for the mcf5206elite BSP make/custom file as a guide. Short
  ↪version:
4
5 * Do the GCI task for each BSP family listed below. Follow the format
  ↪for the commit message.
6
7 * If the BSP has KEEP sections and cxx_iostream does not drop a
  ↪suspiciously large amount, then the modification should be OK to be
  ↪merged.
8
9 * If the BSP does NOT have KEEP sections, then a BSP specific ticket
  ↪should be filed and the per-function section build lines commented
  ↪out in the .cfg file with a FIXME line and the ticket number.
10
11 * When done, update the associated ticket for the BSP family as needed.
  ↪It should be closed as a side-effect of committing any fixes so do NOT
  ↪manually close them.
12
13 Follow the instructions in that GCI task with the addition that you
  ↪should be EXTREMELY cautious in reviewing the size drop and whether
  ↪the BSP linker script has KEEP sections. If the BSP does not have
  ↪KEEP sections file a ticket to track it.
14
15 Be very careful to follow the existing patterns for tickets, commit
  ↪messages, and code changes such as #2579 for the powerpc/motorola_
  ↪powerpc. At the bottom of this text is a current list of "BSP families
  ↪" which an automated search shows as missing per-function section
  ↪linking.
16

```

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```

17 Some of these may already be implemented and just need to be reviewed.
18 ↪ and closed. Close this ticket when they are all done
19
20 The following tickets are for BSPs which still need per function
21 ↪ sections:
22
23 [[keywords=~KEEP|~function+sections,order=priority]](../wikis/
24 ↪ TicketQuery(status=accepted|assigned|new|reopened,))
25
26 + NONE
27 +
28 The full set of BSPs impacted by this ticket is:
29
30 [[TicketQuery(keywords=~KEEP|~function+sections,
31 ↪ order=priority)](TicketQuery(keywords=~KEEP|~function+sections,
32 ↪ order=priority))]

```

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Author: Amar Takhar 2025-09-05T03:01:00.727Z

changed the description

4.2.1.28 2575 - m68k/uC5282: linker script update (add KEEP() sections)

Id	2575
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-02-06T16:20:56.000Z
Updated	2025-09-19T01:32:50.675Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2575
Merges	0

This BSP's linker script does not include KEEP() directives and thus cannot have per-function and per-data element section support enabled.

The preferred solution is to convert the BSP to use a shared base linker script. The acceptable solution is to add the proper KEEP directives to the existing linker script(s).

Shared linker scripts for the arm, m68k, and sparc have the proper KEEP sections and can serve as examples.

Author: Trac Migrate 2017-02-15T13:49:47.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-08-24T05:59:58.000Z

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Trac Migrate 2018-11-25T23:19:21.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1947449a5d6f01a44ccc61eda3e78ef7e06da952/rtems" 1947449/rtems]:

```
1 m68k/uC5282: Add per-section compilation and linking (GCI 2018)
```

```
2
```

```
3 The size of the sample executables without this option were:
```

```
4
```

```
5 text      data      bss      dec      hex filename
6 120160    1520    14048   135728   21230 ./base_sp.exe
7 205904    2112    16976   224992   36ee0 ./capture.exe
8 257216    2912    15040   275168   432e0 ./cdtest.exe
9 867616    21888   21776   911280   de7b0 ./cxx_iostream.exe
10 574528    4640    26432   605600   93da0 ./fileio.exe
11 138256    1520    14192   153968   25970 ./hello.exe
12 268304    6032    20816   295152   480f0 ./loopback.exe
13 102592    1376    10848   114816   1c080 ./minimum.exe
14 137072    1632    14160   152864   25520 ./nsecs.exe
15 213328    1920    14768   230016   38280 ./paranoia.exe
16 439440    12048   43600   495088   78df0 ./pppd.exe
17 122896    1536    14080   138512   21d10 ./ticker.exe
18 123296    1488    17952   142736   22d90 ./unlimited.exe
```

```
19
```

```
20 The size of the sample executables with this option were:
```

```
21
```

```
22 text      data      bss      dec      hex filename
23 58752     1104     9968    69824    110c0 ./base_sp.exe
24 180560    2096    14864   197520    30390 ./capture.exe
25 165328    2080    10992   178400    2b8e0 ./cdtest.exe
26 162288    2144    11152   175584    2ade0 ./cxx_iostream.exe
27 545008    4624    24032   573664    8c0e0 ./fileio.exe
```

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```

28 85440    1456    10112    97008    17af0 ./hello.exe
29 216528   5904    16688    239120   3a610 ./loopback.exe
30 34944     960     6768     42672    a6b0  ./minimum.exe
31 82064    1584    10096    93744    16e30 ./nsecs.exe
32 163808   1872    10752    176432   2b130 ./paranoia.exe
33 388960   11904    40768    441632   6bd20 ./pppd.exe
34 61856    1136    10000    72992    11d20 ./ticker.exe
35 61888    1072    13872    76832    12c20 ./unlimited.exe
36
37 Closes #2575

```

Author: Amar Takhar 2025-09-05T03:01:00.489Z

changed the description

4.2.1.29 2574 - m68k/av5282: linker script update (add KEEP() sections)

Id	2574
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-02-06T16:05:45.000Z
Updated	2025-09-19T01:32:50.572Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2574
Merges	0

This BSP's linker script does not include KEEP() directives and thus cannot have per-function and per-data element section support enabled.

The preferred solution is to convert the BSP to use a shared base linker script. The acceptable solution is to add the proper KEEP directives to the existing linker script(s).

Shared linker scripts for the arm, m68k, and sparc have the proper KEEP sections and can serve as examples.

Author: Trac Migrate 2017-02-15T13:49:47.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-08-24T05:59:58.000Z

- **Milestone** changed from %”4.12.0” to %”Indefinite”

Author: Trac Migrate 2018-11-27T15:26:27.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”89bff5aeb5acbff71d632ce5cb678a1012fa8221/rtems”
89bff5a/rtems]:

```

1 m68k/av5282: Add per-section compilation and linking support (GCI 2018)
2
3 The size of the sample executables without this option were:
4
5 text    data    bss     dec     hex filename
6 83168    1152    11904    96224    177e0 base_sp.exe
7 199184   2096    14848    216128    34c40 capture.exe
8 252496   2912    12912    268320    41820 cdtest.exe
9 861872   21888   19648    903408    dc8f0 cxx_iostream.exe
10 564816   4640    24304    593760    90f60 fileio.exe
11 117168   1504    12048    130720    1fea0 hello.exe
12 261216   6016    18688    285920    45ce0 loopback.exe
13 67200    1008     8768    76976    12cb0 minimum.exe
14 106336   1632    12016    119984    1d4b0 nsecs.exe
15 191856   1904    12624    206384    32630 paranoia.exe
16 430224   12048   41472    483744    761a0 pppd.exe
17 85920    1168    11936    99024    182d0 ticker.exe
18 85984    1120    15808    102912    19200 unlimited.exe
19
20 The size of the sample executables with this option were:
21
22 text    data    bss     dec     hex filename
23 78512    1136    11824    91472    16550 base_sp.exe
24 185584   2096    14800    202480    316f0 capture.exe
25 184192   2144    12864    199200    30a20 cdtest.exe
26 184384   2224    13072    199680    30c00 cxx_iostream.exe
27 552288   4624    23984    580896    8dd20 fileio.exe
28 108224   1504    12016    121744    1db90 hello.exe
29 245168   6016    18608    269792    41de0 loopback.exe
30 62416    1008     8688    72112    119b0 minimum.exe
31 100256   1616    11936    113808    1bc90 nsecs.exe
32 183216   1904    12592    197712    30450 paranoia.exe
33 417648   12048   41392    471088    73030 pppd.exe
34 81024    1168    11856    94048    16f60 ticker.exe
35 84176    1120    15776    101072    18ad0 unlimited.exe
36
37 Closes #2574

```

Author: Amar Takhar 2025-09-05T03:01:00.313Z

changed the description

4.2.1.30 2573 - m68k/gen68340: linker script update (add KEEP() sections)

Id	2573
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-02-06T16:03:20.000Z
Updated	2025-09-19T01:32:50.476Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2573
Merges	0

This BSP's linker script does not include KEEP() directives and thus cannot have per-function and per-data element section support enabled.

The preferred solution is to convert the BSP to use a shared base linker script. The acceptable solution is to add the proper KEEP directives to the existing linker script(s).

Shared linker scripts for the arm, m68k, and sparc have the proper KEEP sections and can serve as examples.

Author: Trac Migrate 2017-02-15T13:49:47.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-08-24T05:59:58.000Z

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Trac Migrate 2018-11-24T22:57:12.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1b2124d17c64a88fc4f5d5213b00826de0ccdb0c/rtems" 1b2124d/rtems]:

```

1 m68k/gen68340:Add per-section compilation and linking support
2
3 The size of the sample executables without this option were:
4
5 65600    4384    19280    89264    15cb0 ./m68k-rtems5/c/gen68340/
6 ↪testsuites/samples/base_sp.exe
7 199728    5504    22688    227920    37a50 ./m68k-rtems5/c/gen68340/
8 ↪testsuites/samples/capture.exe
9 233024    6160    20288    259472    3f590 ./m68k-rtems5/c/gen68340/
10 ↪testsuites/samples/cdtest.exe
11 829632    25152    27008    881792    d7480 ./m68k-rtems5/c/gen68340/
12 ↪testsuites/samples/cxx_iostream.exe
13 539072    8048    32144    579264    8d6c0 ./m68k-rtems5/c/gen68340/
14 ↪testsuites/samples/fileio.exe
15 100320    4752    19440    124512    1e660 ./m68k-rtems5/c/gen68340/
16 ↪testsuites/samples/hello.exe
17 240080    9264    26048    275392    433c0 ./m68k-rtems5/c/gen68340/
18 ↪testsuites/samples/loopback.exe
19 36784     3584    15152    55520     d8e0 ./m68k-rtems5/c/gen68340/
20 ↪testsuites/samples/minimum.exe
21 89104     4864    19408    113376    1bae0 ./m68k-rtems5/c/gen68340/
22 ↪testsuites/samples/nsecs.exe
23 175200    5152    20016    200368    30eb0 ./m68k-rtems5/c/gen68340/
24 ↪testsuites/samples/paranoia.exe
25 422944    15456    49312    487712    77120 ./m68k-rtems5/c/gen68340/
26 ↪testsuites/samples/pppd.exe
27 68768     4416    19312    92496    16950 ./m68k-rtems5/c/gen68340/
28 ↪testsuites/samples/ticker.exe
29 68816     4368    23200    96384    17880 ./m68k-rtems5/c/gen68340/
30 ↪testsuites/samples/unlimited.exe
31
32 The size of the sample executables with this option enabled were:
33
34 text    data    bss     dec     hex filename
35 54384    4384    19200    77968    13090 ./m68k-rtems5/c/gen68340/
36 ↪testsuites/samples/base_sp.exe
37 177648    5488    22640    205776    323d0 ./m68k-rtems5/c/gen68340/
38 ↪testsuites/samples/capture.exe
39 159392    5344    20208    184944    2d270 ./m68k-rtems5/c/gen68340/
40 ↪testsuites/samples/cdtest.exe
41 158720    5424    20432    184576    2d100 ./m68k-rtems5/c/gen68340/
42 ↪testsuites/samples/cxx_iostream.exe
43 515696    8016    31792    555504    879f0 ./m68k-rtems5/c/gen68340/
44 ↪testsuites/samples/fileio.exe
45 83920     4736    19392    108048    1a610 ./m68k-rtems5/c/gen68340/
46 ↪testsuites/samples/hello.exe
47 206640    9168    25920    241728    3b040 ./m68k-rtems5/c/gen68340/
48 ↪testsuites/samples/loopback.exe
49 21232     3520    15104    39856     9bb0 ./m68k-rtems5/c/gen68340/
50 ↪testsuites/samples/minimum.exe

```

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```

30 78352 4864 19312 102528 19080 ./m68k-rtems5/c/gen68340/
    ↪ testsuites/samples/nsecs.exe
31 159600 5136 19968 184704 2d180 ./m68k-rtems5/c/gen68340/
    ↪ testsuites/samples/paranoia.exe
32 377376 15296 48528 441200 6bb70 ./m68k-rtems5/c/gen68340/
    ↪ testsuites/samples/pppd.exe
33 58304 4416 19232 81952 14020 ./m68k-rtems5/c/gen68340/
    ↪ testsuites/samples/ticker.exe
34 59360 4336 23168 86864 15350 ./m68k-rtems5/c/gen68340/
    ↪ testsuites/samples/unlimited.exe
35
36 Closes #2573.

```

Author: Amar Takhar 2025-09-05T03:01:00.125Z

changed the description

4.2.1.31 2572 - m68k/mcf5206elite: linker script update (add KEEP() sections)

Id	2572
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-02-06T16:01:37.000Z
Updated	2025-09-19T01:32:50.383Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2572
Merges	0

This BSP's linker script does not include KEEP() directives and thus cannot have per-function and per-data element section support enabled.

The preferred solution is to convert the BSP to use a shared base linker script. The acceptable solution is to add the proper KEEP directives to the existing linker script(s).

Shared linker scripts for the arm, m68k, and sparc have the proper KEEP sections and can serve as examples.

Author: Trac Migrate 2017-02-15T13:49:47.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-08-24T05:59:58.000Z

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Trac Migrate 2018-11-29T19:02:31.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"f57d4d584efd9b5bc66eb23e8de768a25be3919f/rtems" f57d4d5/rtems]:

```

1 m68k/mcf5206elite:Add per-section compilation and linking support (GCI_
  ↪2018)
2
3 The size of the sample executables without this option were:
4
5 text      data      bss      dec      hex filename
6 70704      1104     11008     82816    14380 ./base_sp.exe
7 202640     2096     14288    219024    35790 ./capture.exe
8 240416     2864     12016    255296    3e540 ./cdtest.exe
9 851024     21840    18736    891600    d9ad0 ./cxx_iostream.exe
10 570560     4640     23760    598960    923b0 ./fileio.exe
11 104928     1456     11168    117552    1cb30 ./hello.exe
12 249904     5968     17776    273648    42cf0 ./loopback.exe
13 38304       288      6864     45456     b190 ./minimum.exe
14 94416      1584     11136    107136    1a280 ./nsecs.exe
15 179728     1856     11744    193328    2f330 ./paranoia.exe
16 435296    12048     40912    488256    77340 ./pppd.exe
17 73856      1120     11040     86016    15000 ./ticker.exe
18 74048      1072     14928     90048    15fc0 ./unlimited.exe
19
20 The size of the sample executables with this option were:
21
22 text      data      bss      dec      hex filename
23 172384     2176     12160    186720    2d960 ./cxx_iostream.exe
24 558320     4608     23440    586368    8f280 ./fileio.exe
25 96256      1456     11136    108848    1a930 ./hello.exe
26 234144     5968     17712    257824    3ef20 ./loopback.exe
27 37648       288      6832     44768     aee0 ./minimum.exe
28 88560      1568     11056    101184    18b40 ./nsecs.exe
29 171360     1856     11712    184928    2d260 ./paranoia.exe
30 422992    12032     40848    475872    742e0 ./pppd.exe
31 69120      1120     10960     81200    13d30 ./ticker.exe
32 72464      1072     14896     88432    15970 ./unlimited.exe
33 66256      1088     10928     78272    131c0 ./base_sp.exe
34 189296     2096     14256    205648    32350 ./capture.exe
35 172272     2096     11968    186336    2d7e0 ./cdtest.exe

```

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36

37 Closes [#2572](#)

Author: Amar Takhar 2025-09-05T03:00:59.939Z

changed the description

Author: Amar Takhar 2025-09-05T03:01:00.833Z

mentioned in issue [#2577](#)

4.2.1.32 2571 - m68k/mcf5235: linker script update (add KEEP() sections)

Id	2571
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-02-06T15:59:28.000Z
Updated	2025-09-19T01:32:50.285Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2571
Merges	0

This BSP’s linker script does not include KEEP() directives and thus cannot have per-function and per-data element section support enabled.

The preferred solution is to convert the BSP to use a shared base linker script. The acceptable solution is to add the proper KEEP directives to the existing linker script(s).

Shared linker scripts for the arm, m68k, and sparc have the proper KEEP sections and can serve as examples.

Author: Trac Migrate 2017-02-15T13:49:47.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

Author: Trac Migrate 2017-08-24T05:59:58.000Z

- **Milestone** changed from %”4.12.0” to %”Indefinite”

Author: Trac Migrate 2018-11-28T18:19:01.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”e80d34eb55a7d63dca982fe3201d416c13b4cd81/rtems”
e80d34e/rtems]:

```

1 m68k/mcf5235:Add per-section compilation and linking support (GCI 2018)
2
3 The size of the sample executables without this option were:
4
5 text    data    bss     dec     hex filename
6 83152    1152    11904    96208    177d0 base_sp.exe
7 198784   2096    14848    215728    34ab0 capture.exe
8 252496   2912    12912    268320    41820 cdtest.exe
9 861744   21888    19648    903280    dc870 cxx_iostream.exe
10 564768   4640    24304    593712    90f30 fileio.exe
11 117184   1504    12048    130736    1feb0 hello.exe
12 261024   6016    18688    285728    45c20 loopback.exe
13 67232    1008     8768    77008    12cd0 minimum.exe
14 106304   1632    12016    119952    1d490 nsecs.exe
15 191840   1904    12624    206368    32620 paranoia.exe
16 429824   12048    41472    483344    76010 pppd.exe
17 85904    1168    11936    99008    182c0 ticker.exe
18 86016    1120    15808    102944    19220 unlimited.exe
19
20 The size of the sample executables with this option were:
21
22 text    data    bss     dec     hex filename
23 78512    1136    11824    91472    16550 base_sp.exe
24 185184   2096    14800    202080    31560 capture.exe
25 184192   2144    12864    199200    30a20 cdtest.exe
26 184416   2224    13072    199712    30c20 cxx_iostream.exe
27 552240   4624    23984    580848    8dcf0 fileio.exe
28 108256   1504    12016    121776    1dbb0 hello.exe
29 245008   6016    18608    269632    41d40 loopback.exe
30 62448    1008     8688    72144    119d0 minimum.exe
31 100240   1616    11936    113792    1bc80 nsecs.exe
32 183216   1904    12592    197712    30450 paranoia.exe
33 417248   12048    41392    470688    72ea0 pppd.exe
34 81024    1168    11856    94048    16f60 ticker.exe
35 84208    1120    15776    101104    18af0 unlimited.exe
36
37 Closes #2571

```

Author: Amar Takhar 2025-09-05T03:00:59.750Z

changed the description

4.2.1.33 2570 - m68k/mcf52235: linker script update (add KEEP() sections)

Id	2570
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-02-06T15:57:24.000Z
Updated	2025-09-19T01:32:50.184Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2570
Merges	0

This BSP's linker script does not include KEEP() directives and thus cannot have per-function and per-data element section support enabled.

The preferred solution is to convert the BSP to use a shared base linker script. The acceptable solution is to add the proper KEEP directives to the existing linker script(s).

Shared linker scripts for the arm, m68k, and sparc have the proper KEEP sections and can serve as examples.

Author: Trac Migrate 2017-02-15T13:49:47.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-08-24T05:59:58.000Z

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Trac Migrate 2018-11-29T15:20:21.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1fe6d1173782770798a309e0047457f261c318ea/rtems" 1fe6d11/rtems]:

```

1 m68k/mcf52235:Add per-section compilation and linking support(GCI 2018)
2
3 The size of the sample executables without this option were:
4
5 text    data    bss     dec     hex filename
6 69776    1104    4080    74960    124d0 ./base_sp.exe
7 103376   1472    4192    109040   1a9f0 ./hello.exe
8 37808     304    2768    40880    9fb0 ./minimum.exe
9 93152    1584    4208    98944    18280 ./nsecs.exe
10 72784    1136    4112    78032    130d0 ./ticker.exe
11 72608    1088    7952    81648    13ef0 ./unlimited.exe
12
13 The size of the sample executables with this option were:
14
15 text    data    bss     dec     hex filename
16 65120    1104    4000    70224    11250 ./base_sp.exe
17 94448    1472    4160    100080   186f0 ./hello.exe
18 36928     304    2736    39968    9c20 ./minimum.exe
19 87072    1584    4128    92784    16a70 ./nsecs.exe
20 67888    1136    4032    73056    11d60 ./ticker.exe
21 70816    1088    7920    79824    137d0 ./unlimited.exe
22
23 Closes #2570

```

Author: Amar Takhar 2025-09-05T03:00:59.568Z

changed the description

4.2.1.34 2569 - m68k/mcf5329: linker script update (add KEEP() sections)

Id	2569
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-02-06T15:51:06.000Z
Updated	2025-09-19T01:32:50.071Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2569
Merges	0

This BSP's linker script does not include KEEP() directives and thus cannot have per-function and per-data element section support enabled.

The preferred solution is to convert the BSP to use a shared base linker script. The acceptable solution is to add the proper KEEP directives to the existing linker script(s).

Shared linker scripts for the arm, m68k, and sparc have the proper KEEP sections and can serve as examples.

Author: Trac Migrate 2016-02-06T15:53:46.000Z

In changeset ea791d52bd787737cf42bc216054ad4f9b0a8f0b:

m68k/.../mcf5329.cfg: Disable per function sections updates [#2569](#).

Author: Trac Migrate 2017-02-15T13:49:47.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-08-24T05:59:58.000Z

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Trac Migrate 2018-11-28T20:50:56.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"cc119eb1cca1552154fca3936d55a35cbc8c8bf6/rtems" cc119eb/rtems]:

1 m68k/mcf5329: Add per-section compilation **and** linking support (GCI [2018](#))

2

3 The size of the sample executables without this option were:

4

5	text	data	bss	dec	hex	filename
6	87654	1152	11968	100774	189a6	base_sp.exe
7	203318	2112	14896	220326	35ca6	capture.exe
8	257014	2912	12960	272886	429f6	cdtest.exe
9	865750	21888	19648	907286	dd816	cxx_iostream.exe
10	569078	4640	24352	598070	92036	fileio.exe
11	121094	1520	12048	134662	20e06	hello.exe
12	70614	1024	8768	80406	13a16	minimum.exe
13	110806	1632	12080	124518	1e666	nsecs.exe
14	196326	1920	12688	210934	337f6	paranoia.exe
15	90406	1184	12000	103590	194a6	ticker.exe
16	89958	1136	15808	106902	1a196	unlimited.exe

17

18 The size of the sample executables **with** this option were:

(continues on next page)

(continued from previous page)

```

19
20 text      data      bss      dec      hex filename
21 83270     1152     11888     96310    17836 base_sp.exe
22 189974     2112     14864     206950    32866 capture.exe
23 188982     2144     12928     204054    31d16 cdtest.exe
24 188662     2240     13072     203974    31cc6 cxx_iostream.exe
25 556822     4624     24048     585494    8ef16 fileio.exe
26 112422     1520     12016     125958    1ec06 hello.exe
27 66086      1008      8688      75782    12806 minimum.exe
28 104982     1632     11984     118598    1cf46 nsecs.exe
29 187958     1904     12656     202518    31716 paranoia.exe
30 85766      1184     11920     98870    18236 ticker.exe
31 88406      1120     15776     105302    19b56 unlimited.exe
32
33 Closes #2569

```

Author: Amar Takhar 2025-09-05T03:00:59.382Z

changed the description

4.2.1.35 2568 - m68k/mcf5225x: linker script update (add KEEP() sections)

Id	2568
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-02-06T15:45:25.000Z
Updated	2025-09-19T01:32:49.961Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2568
Merges	0

This BSP's linker script does not include KEEP() directives and thus cannot have per-function and per-data element section support enabled.

The preferred solution is to convert the BSP to use a shared base linker script. The acceptable solution is to add the proper KEEP directives to the existing linker script(s).

Shared linker scripts for the arm, m68k, and sparc have the proper KEEP sections and can serve as examples.

Author: Trac Migrate 2017-02-15T13:49:47.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-08-24T05:59:58.000Z

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Trac Migrate 2018-11-29T00:58:22.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"9c4dc7b01fd6d5d77235a0177fd6761c4ba2f87e/rtems" 9c4dc7b0/rtems]:

```

1 m68k/mcf5225x:Add per-section compilation and linking support(GCI 2018)
2
3 The size of the sample executables without this option were:
4
5 text    data    bss     dec     hex filename
6 71984    1104    4080    77168   12d70 ./base_sp.exe
7 201872   2112    8944    212928  33fc0 ./capture.exe
8 104464   1472    4192    110128  1ae30 ./hello.exe
9 249584   5984    10864   266432  410c0 ./loopback.exe
10 40032    304     2768    43104   a860 ./minimum.exe
11 95360    1584    4208    101152  18b20 ./nsecs.exe
12 179760   1872    4816    186448  2d850 ./paranoia.exe
13 432912   12048   35568   480528  75510 ./pppd.exe
14 74992    1136    4112    80240   13970 ./ticker.exe
15 74832    1088    7952    83872   147a0 ./unlimited.exe
16
17 The size of the sample executables with this option were:
18
19 text    data    bss     dec     hex filename
20 67456    1104    4000    72560   11b70 ./base_sp.exe
21 188272   2096    8912    199280  30a70 ./capture.exe
22 95536    1472    4160    101168  18b30 ./hello.exe
23 233568   5984    10784   250336  3d1e0 ./loopback.exe
24 39264    304     2736    42304   a540 ./minimum.exe
25 89392    1584    4128    95104   17380 ./nsecs.exe
26 171120   1872    4784    177776  2b670 ./paranoia.exe
27 420336   12048   35488   467872  723a0 ./pppd.exe
28 70208    1136    4032    75376   12670 ./ticker.exe
29 73152    1088    7920    82160   140f0 ./unlimited.exe
30
31 Closes #2568

```

Author: Amar Takhar 2025-09-05T03:00:59.202Z

changed the description

4.2.1.36 2567 - m68k/mrm332: linker script update (add KEEP() sections)

Id	2567
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-02-06T15:42:39.000Z
Updated	2025-09-19T01:32:49.849Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2567
Merges	0

This BSP's linker script does not include KEEP() directives and thus cannot have per-function and per-data element section support enabled.

The preferred solution is to convert the BSP to use a shared base linker script. The acceptable solution is to add the proper KEEP directives to the existing linker script(s).

Shared linker scripts for the arm, m68k, and sparc have the proper KEEP sections and can serve as examples.

Author: Trac Migrate 2017-02-15T13:49:47.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-08-24T05:59:58.000Z

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Trac Migrate 2018-11-29T22:22:24.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"8b28fddf477b36d312054a8c4c2814077e1ff1af/rtems"
8b28fdd/rtems]:

```

1 m68k/mrm332:Add per-section compilation and linking support (GCI 2018)
2
3 The size of the sample executables without this option were:
4
5 text      data      bss      dec      hex filename
6 172384    2096    14512   188992   2e240 ./capture.exe
7 70848     1136    11568    83552   14660 ./base_sp.exe
8 101728    1504    11728    114960   1c110 ./hello.exe
9 217744    6016    18336   242096   3b1b0 ./loopback.exe
10 57968     1008     8416    67392   10740 ./minimum.exe
11 93952     1616    11696   107264   1a300 ./nsecs.exe
12 166272    1904    12304   180480   2c100 ./paranoia.exe
13 358240   12032    41136   411408   64710 ./pppd.exe
14 73104     1168    11600    85872   14f70 ./ticker.exe
15 73264     1120    15472    89856   15f00 ./unlimited.exe
16
17 The size of the sample executables with this option were:
18
19 text      data      bss      dec      hex filename
20 158976    2096    14464   175536   2adb0 ./capture.exe
21 66304     1136    11488    78928   13450 ./base_sp.exe
22 92912     1504    11680   106096   19e70 ./hello.exe
23 202240    6000    18272   226512   374d0 ./loopback.exe
24 53296      992     8336    62624    f4a0 ./minimum.exe
25 88032     1616    11600   101248   18b80 ./nsecs.exe
26 157760    1888    12272   171920   29f90 ./paranoia.exe
27 346080   12032    41056   399168   61740 ./pppd.exe
28 68304     1168    11520    80992   13c60 ./ticker.exe
29 71312     1104    15440    87856   15730 ./unlimited.exe
30
31 Closes #2567

```

Author: Amar Takhar 2025-09-05T03:00:59.012Z

changed the description

4.2.1.37 2566 - m68k/gen68360: linker script update (add KEEP() sections)

Id	2566
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-02-06T15:38:15.000Z
Updated	2025-09-19T01:32:49.737Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2566
Merges	0

This BSP's linker script does not include KEEP() directives and thus cannot have per-function and per-data element section support enabled.

The preferred solution is to convert the BSP to use a shared base linker script. The acceptable solution is to add the proper KEEP directives to the existing linker script(s).

Shared linker scripts for the arm, m68k, and sparc have the proper KEEP sections and can serve as examples.

Author: Trac Migrate 2017-02-15T13:49:47.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-08-24T05:59:58.000Z

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Trac Migrate 2018-11-25T15:35:01.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"ffe9e7a0a755160dcd10bb7cedbe7ecdfde27e18/rtems" ffe9e7a/rtems]:

```

1 m68k/gen68360:Add per-section compilation and linking support
2
3 The size of the sample executables without this option were:

```

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```

4
5 text      data      bss      dec      hex filename
6 76560     1200     19504     97264     17bf0 ./base_sp.exe
7 191776     2160     22448     216384     34d40 ./capture.exe
8 243760     2976     20496     267232     413e0 ./cdtest.exe
9 827184     21872     26928     875984     d5dd0 ./cxx_iostream.exe
10 532960     4688     31904     569552     8b0d0 ./fileio.exe
11 97888      1472     19360     118720     1cfc0 ./hello.exe
12 250368     6080     26272     282720     45060 ./loopback.exe
13 34336       304     15056     49696      c220 ./minimum.exe
14 99840      1680     19616     121136     1d930 ./nsecs.exe
15 185936     1968     20240     208144     32d10 ./paranoia.exe
16 414992     12096     49072     476160     74400 ./pppd.exe
17 79472      1232     19536     100240     18790 ./ticker.exe
18 66368      1088     23120     90576      161d0 ./unlimited.exe
19
20 The size of the sample executables with this option were:
21
22 text      data      bss      dec      hex filename
23 59200      1120     19136     79456     13660 ./base_sp.exe
24 178912     2160     22400     203472     31ad0 ./capture.exe
25 163712     2112     20160     185984     2d680 ./cdtest.exe
26 163696     2192     20352     186240     2d780 ./cxx_iostream.exe
27 521344     4672     31584     557600     88220 ./fileio.exe
28 89600      1472     19328     110400     1af40 ./hello.exe
29 222384     5984     25920     254288     3e150 ./loopback.exe
30 33728       304     15024     49056      bfa0 ./minimum.exe
31 81280      1584     19248     102112     18ee0 ./nsecs.exe
32 164960     1872     19904     186736     2d970 ./paranoia.exe
33 402928     12096     48992     464016     71490 ./pppd.exe
34 62112      1136     19168     82416     141f0 ./ticker.exe
35 64864      1072     23088     89024     15bc0 ./unlimited.exe
36
37 Closes #2566.

```

Author: Amar Takhar 2025-09-05T03:00:58.828Z

changed the description

4.2.1.38 2565 - powerpc/mpc8260ads: linker script update (add KEEP() sections)

Id	2565
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-02-06T15:35:01.000Z
Updated	2025-09-19T01:32:49.632Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2565
Merges	0

This BSP's linker script does not include KEEP() directives and thus cannot have per-function and per-data element section support enabled.

The preferred solution is to convert the BSP to use a shared base linker script. The acceptable solution is to add the proper KEEP directives to the existing linker script(s).

Shared linker scripts for the arm, m68k, and sparc have the proper KEEP sections and can serve as examples.

Author: Trac Migrate 2017-02-15T13:49:47.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-08-24T05:59:58.000Z

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Trac Migrate 2018-11-30T19:29:29.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"c056f219f8111e05d22822b79d9b70ced38f3f89/rtems" c056f21/rtems]:

```
1 powerpc/mpc8260ads:Add per-section compilation and linking support (GCI_
  ↪2018)
```

2

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3 The size of the sample executables without this option were:

	text	data	bss	dec	hex	filename
6	257876	3416	148812	410104	641f8	./capture.exe
7	126956	2428	145836	275220	43314	./base_sp.exe
8	330400	4600	146916	481916	75a7c	./cdtest.exe
9	1092476	23588	153684	1269748	135ff4	./cxx_iostream.exe
10	654892	6056	158868	819816	c8268	./fileio.exe
11	159260	2812	145956	308028	4b33c	./hello.exe
12	339392	7344	152824	499560	79f68	./loopback.exe
13	106388	2276	142644	251308	3d5ac	./minimum.exe
14	156348	2960	145980	305288	4a888	./nsecs.exe
15	201020	3204	146592	350816	55a60	./paranoia.exe
16	547684	13548	175556	736788	b3e14	./pppd.exe
17	130108	2468	145872	278448	43fb0	./ticker.exe
18	129740	2436	149696	281872	44d10	./unlimited.exe

19
20 The size of the sample executables **with** this option were:

	text	data	bss	dec	hex	filename
23	246508	2856	147036	396400	60c70	./cxx_iostream.exe
24	641752	6016	158548	806316	c4dac	./fileio.exe
25	148264	2800	145916	296980	48814	./hello.exe
26	319252	7340	152756	479348	75074	./loopback.exe
27	100396	2288	142556	245240	3bdf8	./minimum.exe
28	148200	2932	145892	297024	48840	./nsecs.exe
29	190520	3192	146552	340264	53128	./paranoia.exe
30	531300	13544	175480	720324	afdc4	./pppd.exe
31	124008	2472	145788	272268	4278c	./ticker.exe
32	127848	2432	149660	279940	44584	./unlimited.exe
33	121272	2432	145752	269456	41c90	./base_sp.exe
34	241104	3412	148768	393284	60044	./capture.exe
35	245424	2936	146876	395236	607e4	./cdtest.exe

36
37 Closes #2565

Author: Amar Takhar 2025-09-05T03:00:58.644Z

changed the description

4.2.1.39 2564 - powerpc/qemuppc: linker script update (add KEEP() sections)

Id	2564
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-02-06T14:52:41.000Z
Updated	2025-09-19T01:32:49.522Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2564
Merges	0

This BSP's linker script does not include KEEP() directives and thus cannot have per-function and per-data element section support enabled.

The preferred solution is to convert the BSP to use a shared base linker script. The acceptable solution is to add the proper KEEP directives to the existing linker script(s).

Shared linker scripts for the arm, m68k, and sparc have the proper KEEP sections and can serve as examples.

Author: Trac Migrate 2016-02-06T14:53:58.000Z

In changeset 8926fadfc095517405e2d93fdf113c244cb41970:

powerpc/.../qemuppc.cfg: Disable per function sections updates
#2564.

Author: Trac Migrate 2017-02-15T13:49:47.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-08-24T05:59:58.000Z

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Trac Migrate 2018-11-30T17:04:04.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"8b3ca0cb4d05aca68b8d7ebc51443ef7c6344058/rtems" 8b3ca0c/rtems]:

```

1 powerpc/qemuppc:Add per-section compilation and linking support (GCI_
  ↪2018)
2
3 The size of the sample executables without this option were:
4
5 text      data      bss      dec      hex filename
6 101320    1604 4184764 4287688 416cc8 ./base_sp.exe
7 247452    2656 4183748 4433856 43a7c0 ./capture.exe
8 283516    29564 4183788 4496868 449de4 ./cdtest.exe
9 948220    162032 4183744 5293996 50c7ac ./cxx_iostream.exe
10 642568    5234 4181152 4828954 49af1a ./fileio.exe
11 133733    1960 4184372 4320065 41eb41 ./hello.exe
12 314124    6796 4179844 4500764 44ad1c ./loopback.exe
13 60592     680 4185536 4246808 40cd18 ./minimum.exe
14 130936    2112 4184228 4317276 41e05c ./nsecs.exe
15 180161    2376 4183956 4366493 42a09d ./paranoia.exe
16 538248    13040 4173628 4724916 4818b4 ./pppd.exe
17 104753    1636 4184736 4291125 417a35 ./ticker.exe
18 104608    1596 4184788 4290992 4179b0 ./unlimited.exe
19
20 The size of the sample executables with this option were:
21
22 text      data      bss      dec      hex filename
23 611756    58492 4183964 4854212 4a11c4 ./cxx_iostream.exe
24 630360    5210 4181168 4816738 497f62 ./fileio.exe
25 123653    1956 4184396 4310005 41c3f5 ./hello.exe
26 295200    6776 4179868 4481844 446334 ./loopback.exe
27 60608     668 4185560 4246836 40cd34 ./minimum.exe
28 123704    2108 4184220 4310032 41c410 ./nsecs.exe
29 170589    2364 4183980 4356933 427b45 ./paranoia.exe
30 523060    13016 4173648 4709724 47dd5c ./pppd.exe
31 99533     1632 4184732 4285897 4165c9 ./ticker.exe
32 103608    1584 4184784 4289976 4175b8 ./unlimited.exe
33 231572    2644 4183736 4417952 4369a0 ./capture.exe
34 96544     1600 4184760 4282904 415a18 ./base_sp.exe
35 223456    10112 4184260 4417828 436924 ./cdtest.exe
36
37 Closes #2564

```

Author: Amar Takhar 2025-09-05T03:00:58.465Z

changed the description

4.2.1.40 2563 - powerpc/ss555: linker script update (add KEEP() sections)

Id	2563
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-02-06T14:49:05.000Z
Updated	2025-09-19T01:32:49.431Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2563
Merges	0

This BSP's linker script does not include KEEP() directives and thus cannot have per-function and per-data element section support enabled.

The preferred solution is to convert the BSP to use a shared base linker script. The acceptable solution is to add the proper KEEP directives to the existing linker script(s).

Shared linker scripts for the arm, m68k, and sparc have the proper KEEP sections and can serve as examples.

Author: Trac Migrate 2017-02-15T13:49:47.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-08-24T05:59:58.000Z

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Trac Migrate 2018-11-30T15:25:55.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"8b6273a843c0e105d4b8aa77c48c8eb3290ef5f2/rtems" 8b6273a8/rtems]:

```
1 powerpc/ss555:Add per-section compilation and linking support(GCI 2018)
2
3 The size of the sample executables without this option were:
```

(continues on next page)

(continued from previous page)

```

4
5 text      data      bss      dec      hex filename
6 116512    1340    15400   133252   20884 ./base_sp.exe
7 246172    2328    18324   266824   41248 ./capture.exe
8 319368    3520    16496   339384   52db8 ./cdtest.exe
9 1077464   22428    23284   1123176   112368 ./cxx_iostream.exe
10 640632    4916    28408   673956   a48a4 ./fileio.exe
11 148844    1692    15572   166108   288dc ./hello.exe
12 328648    6252    22408   357308   573bc ./loopback.exe
13 95828     1196    12224   109248   1aac0 ./minimum.exe
14 145576    1872    15528   162976   27ca0 ./nsecs.exe
15 194932    2100    16172   213204   340d4 ./paranoia.exe
16 537060    12460   45124   594644   912d4 ./pppd.exe
17 119620    1380    15464   136464   21510 ./ticker.exe
18 119388    1324    19300   140012   222ec ./unlimited.exe
19
20 The size of the sample executables with this option were:
21
22 text      data      bss      dec      hex filename
23 235000    2336    16628   253964   3e00c ./cxx_iostream.exe
24 627252    4892    28108   660252   a131c ./fileio.exe
25 137648    1676    15528   154852   25ce4 ./hello.exe
26 308616    6236    22336   337188   52524 ./loopback.exe
27 89564     1180    12144   102888   191e8 ./minimum.exe
28 137184    1856    15432   154472   25b68 ./nsecs.exe
29 184264    2084    16144   202492   316fc ./paranoia.exe
30 520768    12440   45020   578228   8d2b4 ./pppd.exe
31 113260    1364    15356   129980   1fbbc ./ticker.exe
32 117236    1308    19272   137816   21a58 ./unlimited.exe
33 110584    1324    15308   127216   1f0f0 ./base_sp.exe
34 229172    2316    18288   249776   3cfb0 ./capture.exe
35 233980    2320    16436   252736   3db40 ./cdtest.exe
36
37 Closes #2563

```

Author: Amar Takhar 2025-09-05T03:00:58.283Z

changed the description

4.2.1.41 2561 - powerpc/haleakala linker script update (add KEEP() sections)

Id	2561
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-02-05T13:50:45.000Z
Updated	2025-09-19T01:32:49.338Z
Milestone	5.1
Labels	bsp, old-indefinite, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2561
Merges	0

This BSP's linker script does not include KEEP() directives and thus cannot have per-function and per-data element section support enabled.

The preferred solution is to convert the BSP to use a shared base linker script. The acceptable solution is to add the proper KEEP directives to the existing linker script(s).

Shared linker scripts for the arm, m68k, and sparc have the proper KEEP sections and can serve as examples.

Author: Joel Sherrill 2016-02-06T14:47:39.000Z

- **Description** changed

```

1 This BSP's linker script does not include KEEP() directives and thus_
  ↪ cannot have per-function and per-data element section support enabled.
2
3 The preferred solution is to convert the BSP to use a shared base_
  ↪ linker script. The acceptable solution is to add the proper KEEP_
  ↪ directives to the existing linker script(s).
4
5 - See https://devel.rtems.org/wiki/GCI/Coding/
  ↪ AddPerSectionSupportToBSPs for more details.
6 + Shared linker scripts for the arm, m68k, and sparc have the proper_
  ↪ KEEP sections and can serve as examples.
```

Author: Trac Migrate 2017-02-15T13:49:47.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-08-24T05:59:58.000Z

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Trac Migrate 2018-11-30T20:11:49.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"f40f86d75a0cf278333bfe0c76ba6c89e264f536/rtems" f40f86d/rtems]:

```

1 powerpc/haleakala:Add per-section compilation and linking support (GCI_
  ↪2018)
2
3 The size of the sample executables without this option were:
4
5 text      data      bss      dec      hex filename
6 104144     1316     16112   121572   1dae4 ./base_sp.exe
7 263120     2424     19356   284900   458e4 ./capture.exe
8 315012     2300     17184   334496   51aa0 ./cdtest.exe
9 1103896    2350     23988  1130234  113efa ./cxx_iostream.exe
10 654832     4986     29400   689218   a8442 ./fileio.exe
11 143328     1664     16264   161256   275e8 ./hello.exe
12 329540     6228     23096   358864   579d0 ./loopback.exe
13 80264      1124     12868   94256    17030 ./minimum.exe
14 133600     1832     16216   151648   25060 ./nsecs.exe
15 215024     2096     16904   234024   39228 ./paranoia.exe
16 571768    12532     46100   630400   99e80 ./pppd.exe
17 107872     1340     16148   125360   1e9b0 ./ticker.exe
18 107856     1308     20008   129172   1f894 ./unlimited.exe
19
20 The size of the sample executables with this option were:
21
22 text      data      bss      dec      hex filename
23 612124     2106     22800   637030   9b866 ./cxx_iostream.exe
24 641180     4986     29104   675270   a4dc6 ./fileio.exe
25 132316     1664     16228   150208   24ac0 ./hello.exe
26 309544     6212     23028   338784   52b60 ./loopback.exe
27 74028      1108     12804   87940    15784 ./minimum.exe
28 125372     1836     16148   143356   22ffc ./nsecs.exe
29 204556     2088     16868   223512   36918 ./paranoia.exe
30 555528    12540     46032   614100   95ed4 ./pppd.exe
31 101548     1356     16052   118956   1d0ac ./ticker.exe
32 105916     1284     19976   127176   1f0c8 ./unlimited.exe
33 98268      1300     16016   115584   1c380 ./base_sp.exe
34 246364     2404     19320   268088   41738 ./capture.exe
35 229184     1836     17148   248168   3c968 ./cdtest.exe
36

```

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37 Closes [#2561](#)**Author:** Amar Takhar 2025-09-05T03:00:58.097Z

changed the description

4.2.1.42 2483 - raspberrypi: i2c driver can block task forever if compiled with `#if I2C_IO_MODE == 1`

Id	2483
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2015-12-02T10:18:17.000Z
Updated	2025-09-19T01:32:49.139Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2483
Merges	0

Original author: soja

If the i2c driver is compiled with `#if I2C_IO_MODE == 1` it uses a transient event send by an ISR to wait for space in the TX FIFO.

The transient event is sent to the taskid which is stored in the structure for the corresponding bus (bus->task_id). However, this field is only set once in the `rpi_i2c_register_bus`-function. That means if a task other than the one which registered the bus wants to access it, it will block forever because the event is sent to the wrong one (the one which registered the bus).

- [0001-Store-task_id-of-the-current-thread-for-the-ISR-befo.patch](#)

Author: Trac Migrate 2015-12-02T11:29:13.000Z

Original author: soja

- **Attachment** [0001-Store-task_id-of-the-current-thread-for-the-ISR-befo.patch](#) added

Author: Trac Migrate 2015-12-02T11:30:42.000Z

Original author: soja

The added patch should fix the problem. It simply writes the task_id of the current thread to the bus structure before waiting for the transient event. Then, the ISR should send the event to the correct task.

Author: Trac Migrate 2015-12-13T01:22:17.000Z

Original author: soja

- **Owner** set to Jan Sommer <soja-lists@aries.uberspace.de>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 687463d7f3b0abb1d98e6e630fb6d47541594bd4:

Store task_id of the current thread for the ISR before waiting for the transient event The ISR will send a transient event to the task specified in bus->taskid. Make sure that the correct task_id is written to this field before waiting for the transient event to arrive. Fixes [#2483](#)

Author: Chris Johns 2025-09-19T01:32:49.220Z

changed the description

4.2.1.43 4534 - SMP EDF scheduler violates priority group ordering

Id	4534
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-10-27T07:40:13.000Z
Updated	2025-09-19T01:15:46.660Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, smp, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4534
Merges	0

Original author: sebastian.huber

The SMP EDF scheduler supports one-to-one and one-to-all thread to processor affinities. The one-to-one thread to processor affinity introduces a constraint on the ordering of threads. The implementation uses one ready queue for threads which have a one-to-all affinity and one for each one-to-one affinity group. To order threads across the ready queues, a generation number is used. However, the approach to update the generation number each time a thread is inserted into a ready queue is wrong. The generation number need to be updated only in the enqueue and enqueue scheduled operations where an insert priority is available. The scheduled chain needs to take the generation number into account.

An example scenario which shows the bug is this. Let T be a high priority task affine to processor X. Let A be a lower priority task affine to processor X. Let B be a lower priority task with no affinity to a particular processor which executes on processor Y. Let B be in the same priority group than A and after A. Let T set the affinity to all processors. Now A (higher priority relative to B) should execute on X and T (high priority) should execute on Y.

Author: Trac Migrate 2021-10-27T08:04:06.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 The SMP EDF scheduler supports one-to-one and one-to-all thread to
  ↳processor affinities. The one-to-one thread to processor affinity
  ↳introduces a constraint on the ordering of threads. The
  ↳implementation uses one ready queue for threads which have a one-to-
  ↳all affinity and one for each one-to-one affinity group. To order
  ↳threads across the ready queues, a generation number is used.
  ↳However, the approach to update the generation number each time a
  ↳thread is inserted into a ready queue is wrong. The generation number
  ↳need to be updated only in the enqueue and enqueue scheduled
  ↳operations where an insert priority is available. The scheduled chain
  ↳needs to take the generation number into account.
2
3 - An example scenario which shows the bug is this. Let T be a high
  ↳priority task affine to processor X. Let A be a lower priority task
  ↳affine to processor X. Let B be a lower priority task with no
  ↳affinity to a particular processor which executes on processor Y. Let
  ↳B be in the same priority group than A and after A. Let A set the
  ↳affinity to all processors. Now A (higher priority relative to B)
  ↳should execute on X and T (high priority) should execute on Y.
4 ?
  ↳
  ↳
  ↳
  ↳
  ↳
  ↳-----
5
6 + An example scenario which shows the bug is this. Let T be a high
  ↳priority task affine to processor X. Let A be a lower priority task
  ↳affine to processor X. Let B be a lower priority task with no
  ↳affinity to a particular processor which executes on processor Y. Let
  ↳B be in the same priority group than A and after A. Let T set the
  ↳affinity to all processors. Now A (higher priority relative to B)
  ↳should execute on X and T (high priority) should execute on Y.
7 ?
  ↳
  ↳
  ↳
  ↳
  ↳
  ↳+++++
```

Author: Trac Migrate 2021-11-23T13:35:59.000Z

Original author: sebastian.huber

In [changeset:"6d20f0c5257164d8ec8127e3e55a1686b7dba8d1/rtems" 6d20f0c5/rtems]:

```

1 score: Add node to insert to Chain_Node_order
2
3 This allows to use additional members of the nodes for comparision.
4
5 Update #4534.
```

Author: Trac Migrate 2021-11-23T13:36:03.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"b9990b8d46812766c8ca0ce5523a035be16f83a7/rtems" b9990b8d/rtems]:

```

1 score: Fix SMP EDF priority group ordering
2
3 The SMP EDF scheduler supports one-to-one and one-to-all thread to
4 processor affinities. The one-to-one thread to processor affinity
5 introduces a constraint on the ordering of threads. The implementation
6 uses one ready queue for threads which have a one-to-all affinity and
7 one for each one-to-one affinity group. To order threads across the
8 ready queues, a generation number is used. However, the approach to
9 update the generation number each time a thread is inserted into a ready
10 queue was wrong. The generation number needs to be updated only in the
11 enqueue and enqueue scheduled operations where an insert priority is
12 available. The scheduled chain needs to take the generation number into
13 account.
14
15 An example scenario which shows the bug is this. Let T be a high
16 priority task affine to processor X. Let A be a lower priority task
17 affine to processor X. Let B be a lower priority task with no affinity
18 to a particular processor which executes on processor Y. Let B be in
19 the same priority group than A and after A. Let T set the affinity to
20 all processors. Now A (higher priority relative to B) should execute on
21 X and T (high priority) should execute on Y.
22
23 Close #4534.
```

Author: Amar Takhar 2024-04-25T20:49:16.402Z

changed the description

4.2.1.44 5188 - Backport 5.4: bsp/shared: NS16550 driver updates the line control register during operation

Id	5188
State	closed
Type	ISSUE
Author	Jan Sommer
Closed by	Chris Johns
Created	2025-01-23T14:29:12.362Z
Closed	2025-01-24T00:09:40.473Z
Updated	2025-09-19T01:11:15.602Z
Milestone	5.1
Labels	device::serial, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/5188
Merges	0

Backport of <https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/5179>

Summary

Calling `tcsetattr` even with only changes to the timeout conditions will reset the line control register temporary which can corrupt ongoing data transfers.

Steps to reproduce

- Continuously write data to the serial port (ideally with high baud rates like 921600 bps).
- Change the timing settings like `VMIN` or `VTIME`
- Receive corrupted data

Expected behaviour

- Data transfer is not corrupted.

4.2.1.44.3.1 Pre-set options

Author: Jan Sommer	2025-01-23T14:29:57.049Z

Author: Jan Sommer	2025-01-23T14:32:05.097Z

mentioned in merge request [!366](#)

4.2.1.45 4940 - Fix cache support for ARM926EJ-S processor

Id	4940
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2023-08-10T06:10:15.000Z
Updated	2025-09-19T01:11:15.434Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4940
Merges	0

Original author: sebastian.huber

Fix the CP15 cache support so that it works on ARMv5T processors such as the ARM926EJ-S. This processor has different cache maintenance operations compared to ARMv6 processors such as the ARM1176JZF-S. The current support leads to undefined instruction exceptions.

Author: Trac Migrate 2023-08-10T06:11:28.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"ffec9f96fc727cc1745b2ee3e2fda965df8198d6/rtems"ffec9f96/rtems]:

```

1 arm: Fix cache support for ARM926EJ-S
2
3 The ARM926EJ-S is an ARMv5T architecture processor and lacks some
4 features of ARMv6 processors such as the ARM1176JZF-S.
5
6 Close #4940.
```

Author: Chris Johns 2025-09-19T01:11:15.492Z

changed the description

4.2.1.46 4914 - libbsd/ipsec-tools: Problems with more than 64 open files (cloned)

Id	4914
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2023-05-31T05:57:07.000Z
Updated	2025-09-19T01:11:15.185Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4914
Merges	0

Original author: Christian Mauderer

Cloned from [#4913](#):

IPSec with racoon doesn't work if there are more than 64 open file descriptors in the system.

Author: Trac Migrate 2023-05-31T06:06:15.000Z

Original author: Christian Mauderer

- **Owner** set to Christian Mauderer <christian.mauderer@embedded-brains.de>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"484186e8bc5571a0f38d56c061c9fb0946635008/rtems-libbsd" 484186e/rtems-libbsd]:

```

1 ipsec-tools: Fix copying fd_set prior to select
2
3 The racoon session code copies an fd_set from one variable into another
4 prior to calling select. That works well for simple structures.
5
6 In libbsd we have to allocate fd_sets instead of using fixed structures
7 to avoid a problem with file numbers bigger than FD_SETSIZE. The simple
8 assignment didn't work in that case.
9
10 This patch makes sure that a memcpy is used instead.
11
12 Close #4914

```

Author: Chris Johns 2025-09-19T01:11:15.252Z

changed the description

4.2.1.47 4692 - Python 3.8 introduces new warning about using operator “is” with a literal

Id	4692
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2022-08-01T15:50:29.000Z
Updated	2025-09-19T01:11:11.674Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::enhancement, tool::test, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4692
Merges	0

Original author: konrad.schwarz

Python 3.8 introduces a new warning: using the “is” operator as an equality operation is incorrect (although it works by chance on CPython). To compare for equality, the “==” operator must be used.

Warnings popped up when I called rtems-tester.

Attached please find patches for this case.

- [0001-Python-3.8-warning-about-is-vs-in-comparisons-of-lit.patch](#)

Author: Joel Sherrill 2022-08-01T15:51:56.000Z

Original author: konrad.schwarz

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Joel Sherrill 2022-08-01T15:52:39.000Z

Original author: konrad.schwarz

Konrad, there are no patches attached (yet I hope).

And thanks in advance for the patches.

Author: Trac Migrate 2022-08-01T15:59:00.000Z

Original author: konrad.schwarz

- **Attachment** [0001-Python-3.8-warning-about-is-vs-in-comparisons-of-lit.patch](#) added

Patch file

Author: Trac Migrate 2022-08-12T14:18:53.000Z

Original author: konrad.schwarz

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"04d6aa3ada572c1fd7352e3a95775824679c0aa0/rtems-tools" 04d6aa3/rtems-tools]:

```
1 Python 3.8 warning about "is" vs "==" in comparisons of literals
2
3 Signed-off-by: Konrad Schwarz <konrad.schwarz@siemens.com>
4
5 Closes #4692
```

Author: Chris Johns 2025-09-19T01:11:11.736Z

changed the description

4.2.1.48 4678 - System initialization time increased compared to RTEMS 4.11

Id	4678
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-07-15T06:24:41.000Z
Updated	2025-09-19T01:11:11.222Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4678
Merges	0

Original author: sebastian.huber

Since RTEMS 5, the objects based on `Objects_Control` are statically allocated in the `.bss` sections. The zero-initialization is unnecessary since each object is fully initialized after allocation by an object-specific initialization routine. The memory for objects is statically allocated or allocated from the workspace if the unlimited objects configuration option is used. Workspace memory is uninitialized by default. Optimize the static allocation to place the object controls, local tables, and thread queue heads into a `.noinit` section.

The longer system initialization time compared to RTEMS 4.11 may lead to hardware watchdog problems.

Author: Trac Migrate 2022-07-15T06:26:19.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 Since RTEMS 5, the objects based on Objects_Control are statically
  ↪ allocated in the .bss sections. The zero-initialization is
  ↪ unnecessary since each object is fully initialized after allocation
  ↪ by an object-specific initialization routine. The memory for objects
  ↪ is statically allocated or allocated from the workspace if the
  ↪ unlimited objects configuration option is used. Workspace memory is
  ↪ uninitialized by default. Optimize the static allocation to place the
  ↪ object controls, local tables, and thread queue heads into a .noinit
  ↪ section.
2 +
3 + The longer system initialization time compared to RTEMS 4.11 may lead
  ↪ to hardware watchdog problems.
```

Author: Trac Migrate 2022-07-15T08:42:56.000Z

Original author: sebastian.huber

In [changeset:"5ed0035377d62da7d33072f10ea04ede27422455/rtems" 5ed00353/rtems]:

```

1 bsps: Sort .noinit* sections
2
3 Sort the .noinit* input sections by name first, then by alignment if two
4 sections have the same name. This allows the placement of begin/end
  ↪ symbols to
5 initialize some areas with a special value.
6
7 Update #4678.
```

Author: Trac Migrate 2022-07-15T08:42:58.000Z

Original author: sebastian.huber

In [changeset:"4b911a7516750ef1c43f9dc387e0206e1086623b/rtems" 4b911a75/rtems]:

```

1 score: Place object controls into .noinit sections
2
3 Place the statically allocated object control blocks, local tables, and
  ↪ thread
4 queue heads into the dedicated .noinit input sections. The output
  ↪ section is
5 not zero initialized. Placing these elements into the .noinit section
  ↪ reduces
```

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```

6 the system initialization time by decreasing the .bss section size.
7
8 It may improve the cache efficiency since the mostly read local tables_
  ↪are
9 placed in a contiguous memory area.
10
11 Update #4678.

```

Author: Trac Migrate 2022-07-15T08:43:01.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1bf878f7ff6013fe4a0172f0493fcc47b9e26189/rtems" 1bf878f7/rtems]:

```

1 score: Extend memory dirty/zero actions
2
3 Dirty or zero also the part of the .noinit section used by RTEMS.
4
5 Close #4678.

```

Author: Trac Migrate 2022-07-18T13:45:02.000Z

Original author: sebastian.huber

In [changeset:"0e5f4c5d323c54fa3db927f33117a5c6354853ee/rtems" 0e5f4c5/rtems]:

```

1 spsysinit01: Account for use of .noinit section
2
3 The objects control blocks cannot be used to check the pre-
  ↪initialization state
4 since they are allocated in a .noinit section.
5
6 Update #4678.

```

Author: Trac Migrate 2022-07-20T06:38:51.000Z

Original author: sebastian.huber

In [changeset:"25ccc19ae929b38fe42cd7350ba82af42e01d598/rtems" 25ccc19/rtems]:

```

1 bsps/riscv: Sort .noinit* sections
2
3 Sort the .noinit* input sections by name first, then by alignment if two
4 sections have the same name. This allows the placement of begin/end_
5 ↪symbols to
6 initialize some areas with a special value.
7 Update #4678.

```

Author: Trac Migrate 2022-07-27T06:51:59.000Z

Original author: sebastian.huber

In [changeset:"2501c64bb6654f5e4290709e0d83b94bfe51973f/rtems" 2501c64b/rtems]:

```

1 score: Fix objects local table initialization
2
3 The objects local table must be statically zero-initialized so that
4 _Objects_Get() and _Objects_Get_no_protection() return NULL if no_
5 ↪object is
6 associated with the identifier.
7 Update #4678.

```

Author: Trac Migrate 2022-07-28T06:50:25.000Z

Original author: sebastian.huber

In [changeset:"6a6580331df3e09516d50f37d4dd5fd57825c08a/rtems" 6a65803/rtems]:

```

1 score: Allow linker garbage collection
2
3 Place the object control blocks in dedicated sections to allow a linker_
4 ↪garbage
5 collection.
6 Update #4678.

```

Author: Trac Migrate 2022-08-01T07:07:39.000Z

Original author: sebastian.huber

In [changeset:"4d77f725ca6517545397dc69152978d3c99218ae/rtems" 4d77f725/rtems]:

```

1 sp54: Fix test case
2
3 Since commit 6a6580331df3e09516d50f37d4dd5fd57825c08a, the local table_
  ↳ is
4 zero-initialized. Use an initial object control block instead.
5
6 Update #4678.

```

Author: Amar Takhar 2024-04-25T20:49:57.688Z

changed the description

4.2.1.49 4676 - incorrect handling of “inactive_per_block” from “Objects_Information” structure

Id	4676
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-07-12T06:45:56.000Z
Updated	2025-09-19T01:11:11.025Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4676
Merges	1

Original author: avarlan

The inactive_per_block for block 1 is not handled correctly. For the first object in the second block, the inactive_per_block value is not decremented. As a consequence, the block might be deleted when the second to last object from block 1 is deleted. This is only valid when the application is configured with “CONFIGURE_UNLIMITED_OBJECTS”.

The reason is the following:

in function “_Objects_Activate_unlimited” from “objectimpl.h”

```

——snip snip snip—— block = _Objects_Get_index( the_object->id ) - OB-
JECTS_INDEX_MINIMUM;

```

```

if ( block > objects_per_block ) { block /= objects_per_block;

```

```

information->inactive_per_block[ block ]--; information->inactive--; } ——snip snip
snip——

```

in a block with 8 objects per block, when creating the 9th object, _Objects_Get_index(the_object->id) returns 9. Therefore, “block” will be 8 (9 - 1). The next “if” will not be taken (8 > 8 ? No) and the inactive_per_block will not be decremented to 7 and remains at 8. This means that block 1 is a candidate for “_Objects_Shrink_information” function although object id 9 is still valid.

Steps to reproduce: -assuming 8 objects per allocation block -using semaphores as objects

1. create 17 “RTEMS_SIMPLE_BINARY_SEMAPHORE” semaphore objects id’s 1 -> 17.
2. delete semaphores 11, 12, 13, 14, 15, 16, 17 (order is important)
3. lock semaphore 9
4. delete semaphore 10 -> at this point, block 1 is freed although semaphore 9 is still active
5. unlock semaphore 9 -> this can lead to errors. In my case due to the free the semaphore object was altered and changed from a “SEMAPHORE_VARIANT_SIMPLE_BINARY” to “SEMAPHORE_VARIANT_MUTEX_INHERIT_PRIORITY” resulting in a return value of “RTEMS_NOT_OWNER_OF_RESOURCE”.

Simple fix: the condition for the “if” should be “>=” instead of “>”.

Author: Trac Migrate 2022-07-12T07:33:52.000Z

Original author: avarlan

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*

Thanks for the detailed bug report. Do you would like to add a test case for this? If not, then I can do it.

I think the bug was introduced by:

```

1 commit 21275b58a5a69c3c838082ffc8a7a3641f32ea9a
2 Author: Sebastian Huber <sebastian.huber@embedded-brains.de>
3 Date: Thu Nov 22 19:14:51 2018 +0100
4
5 score: Static Objects_Information initialization
6
7 Statically allocate the objects information together with the initial
8 set of objects either via <rtems/confdefs.h>. Provide default object
9 informations with zero objects via librtemscpu.a. This greatly
10 simplifies the workspace size estimate. RTEMS applications which do not
11 use the unlimited objects option are easier to debug since all objects
12 reside now in statically allocated objects of the right types.
13
14 Close #3621.
15
16 diff --git a/cpukit/score/src/objectallocate.c b/cpukit/score/src/
17 ↪objectallocate.c
18 index 9213cf8eb7..ad73884a07 100644
19 --- a/cpukit/score/src/objectallocate.c
20 +++ b/cpukit/score/src/objectallocate.c
21 @@ -68,13 +68,18 @@ Objects_Control *_Objects_Allocate_unprotected(
22 }
23
24 if ( the_object != NULL ) {
25     Objects_Maximum objects_per_block;

```

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```

25 Objects_Maximum block;
26
27 +     objects_per_block = information->objects_per_block;
28 block = _Objects_Get_index( the_object->id ) - OBJECTS_INDEX_MINIMUM;
29 -     block /= information->objects_per_block;
30
31 -     information->inactive_per_block[ block ]--;
32 -     information->inactive--;
33 +     if ( block > objects_per_block ) {
34 +         block /= objects_per_block;
35 +
36 +         information->inactive_per_block[ block ]--;
37 +         information->inactive--;
38 +     }
39 }
40 }

```

Author: Trac Migrate 2022-07-12T15:27:33.000Z

Original author: avarlan

Hello,

if not too much trouble then I think it's best you add a test case.

Author: Trac Migrate 2022-07-21T07:17:31.000Z

Original author: avarlan

In [changeset:"fc7584d71940e4bfda3efcecd1a744bcab6f40a1/rtems"fc7584d7/rtems]:

```

1 score: Fix _Objects_Active_count()
2
3 With unlimited objects the object maximum may be larger than the sum of _
4 active
5 and inactive objects.
6 Update #4676.

```

Author: Trac Migrate 2022-07-21T07:17:33.000Z

Original author: avarlan

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"b9de5b3bd631d2793b83aff241dccc64b69211eb/rtems"b9de5b3b/rtems]:


```
1 score: Fix unlimited objects support
2
3 Commit 21275b58a5a69c3c838082ffc8a7a3641f32ea9a ("score: Static
4 Objects_Information initialization") introduced an off-by-one error in
5 ↪the
6 maintenance of inactive objects.
7 Close #4676.
```

Author: Amar Takhar 2024-04-25T20:49:57.274Z

mentioned in issue [#4677](#)

Author: Chris Johns 2025-09-19T01:11:11.110Z

changed the description

4.2.1.50 4669 - clock_nanosleep() uses the wrong clock to determine the start time point

Id	4669
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-06-22T08:51:14.000Z
Updated	2025-09-19T01:11:10.927Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4669
Merges	0

Original author: sebastian.huber

See gcc-patches mailing list:

```
1 On 22/06/2022 08:22, Sebastian Huber wrote:
2
3
4   On 22/06/2022 08:01, Alexandre Oliva via Gcc-patches wrote:
5
6
7   On rtems under qemu, the frequently-interrupted nanosleep ends up
8   sleeping shorter than expected, by a margin of less than 0,3%.
9   I figured failing the library test over a system (emulator?) bug is
10  undesirable, so I put in some tolerance for the drift.
11  Regstrapped on x86_64-linux-gnu, also tested with a cross to
```

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```

12  aarch64-rtems6.  Ok to install?
13  PS: I see nothing wrong with the implementation of clock_nanosleep (used
14  by nanosleep) on rtems6 that could cause it to wake up too early.  I
15  suspect some artifact of the emulation environment.
16  for libstdc++-v3/ChangeLog
17  * testsuite/30_threads/this_thread/60421.cc: Tolerate a
18  slightly early wakeup.
19  ---
20  .../testsuite/30_threads/this_thread/60421.cc      |      3 +-
21  1 file changed, 2 insertions(+), 1 deletion(-)
22  diff --git a/libstdc++-v3/testsuite/30_threads/this_thread/60421.cc b/
    ↪ libstdc++-v3/testsuite/30_threads/this_thread/60421.cc
23  index 12dbeba1cc492..f3a5af453c4ad 100644
24  --- a/libstdc++-v3/testsuite/30_threads/this_thread/60421.cc
25  +++ b/libstdc++-v3/testsuite/30_threads/this_thread/60421.cc
26  @@ -51,9 +51,10 @@ test02()
27  std::thread t([&result, &sleeping] {
28  auto start = std::chrono::system_clock::now();
29  auto time = std::chrono::seconds(3);
30  +   auto tolerance = std::chrono::milliseconds(10);
31  sleeping = true;
32  std::this_thread::sleep_for(time);
33  -   result = std::chrono::system_clock::now() >= (start + time);
34  +   result = std::chrono::system_clock::now() + tolerance >= (start + time);
35  sleeping = false;
36  });
37  while (!sleeping)

```

```

40  This looks like a bug in RTEMS or the BSP for the test platform. I would first
    ↪ investigate this and then change the test which looks all right to me.

```

```

41  This is a problem in RTEMS. RTEMS uses the FreeBSD timecounters to maintain
    ↪ CLOCK_REALTIME and provides two methods to get the time in a coarse and fine
    ↪ resolution. The std::chrono::system_clock::now() uses the fine resolution
    ↪ (higher overhead). The clock_nanosleep() uses the coarse resolution which may
    ↪ give a time before now().

```

Author: Trac Migrate 2022-06-23T07:04:18.000Z

Original author: sebastian.huber

- Cc added @oliva@gnu.org

Author: Trac Migrate 2022-06-23T07:14:50.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"

- **Status** changed from *assigned* to *closed*

In [changeset:"cd50bea678baa494640415377f7be146246ba3e4/rtems" cd50bea/rtems]:

```
1 score: Use right clock for threadq timeouts
2
3 Use CLOCK_REALTIME and CLOCK_MONOTONIC for relative thread queue_
  ↳ timeouts
4 instead of CLOCK_REALTIME_COARSE and CLOCK_MONOTONIC_COARSE. This_
  ↳ fixes an
5 issue with clock_nanosleep() in combination with clock_gettime().
6
7 Close #4669.
```

Author: Trac Migrate 2022-06-23T07:38:39.000Z

Original author: sebastian.huber

In [changeset:"8c8ee47113eff24b3f583509d3bbbf6d1c496947/rtems-central" 8c8ee47/rtems-central]:

```
1 spec: Adjust clock_nanosleep() test case
2
3 Update #4669.
```

Author: Amar Takhar 2024-04-25T20:49:56.314Z

changed the description

4.2.1.51 4660 - Spike failing to build with RSB 5 on Ubuntu 21.04

Id	4660
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-05-25T18:13:09.000Z
Updated	2025-09-19T01:11:10.769Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4660
Merges	0

Original author: rlong

With the current hash of the RSB, I'm getting the following error on Ubuntu.

```

1 ./fesvr/dtm.cc: In member function 'uint32_t dtm_t::get_xlen()':
2
3 ./fesvr/dtm.cc:488:16: error: 'runtime_error' is not a member of 'std'
4
5 488 |         throw std::runtime_error("FESVR DTM Does not support 128-bit");
6
7 |         ~~~~~
8
9 ./fesvr/dtm.cc:505:14: error: 'runtime_error' is not a member of 'std'
10
11 505 |         throw std::runtime_error("FESVR DTM can't determine XLEN. Aborting");
12
13 |         ~~~~~
14
15 ./fesvr/dtm.cc:506:1: warning: control reaches end of non-void function [-Wreturn-
    ↳ type]
16
17 506 |     }
18
19 |     ^
20
21 make: *** [Makefile:347: dtm.o] Error 1
22
23 make: *** Waiting for unfinished jobs....
24
25 shell cmd failed: /bin/sh -ex /home/tester/rtems-cron-5/rtems-source-builder/
    ↳ bare/build/spike-66b44bfbedda562a32e4a2cd0716afbf731b69cd-x86_64-linux-gnu-1/do-
    ↳ build

```

Author: Trac Migrate 2022-06-02T15:08:11.000Z

Original author: rlong

- **Owner** set to Ryan Long <ryan.long@oarcorp.com>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"7f6cfad445d02393507b392a249fa1e64dad041/rtems-source-builder" 7f6cfad/rtems-source-builder]:

```

1 devel/spike-1.1.0: bump hash
2
3 Bump the hash of spike to match the 1.1.0 release
4
5 Closes #4660

```

Author: Chris Johns 2025-09-19T01:11:10.832Z

changed the description

4.2.1.52 4654 - pfctl: Fix global state initialization (cloned)

Id	4654
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-05-11T11:37:24.000Z
Updated	2025-09-19T01:11:10.506Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4654
Merges	0

Original author: sebastian.huber

Cloned from [#4653](#):

The last update introduced a static variable in `get_query_socket()` which was not initialized.

Author: Trac Migrate 2022-05-11T13:17:11.000Z

Original author: sebastian.huber

In [changeset:"c9696eb29a6878b5dc6fd98c380b3ce69341bb8a/rtems-libbsd" c9696eb/rtems-libbsd]:

```
1 pf02: Fix shell environmment initialization
2
3 Update #4654.
```

Author: Trac Migrate 2022-05-11T13:17:13.000Z

Original author: sebastian.huber

In [changeset:"435b298b0f34ca0d1f73fcf68bbb49db1ef57c7e/rtems-libbsd" 435b298/rtems-libbsd]:

```
1 pfctl: Fix global state initialization
2
3 Update #4654.
```

Author: Trac Migrate 2022-05-11T13:19:09.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”211c5ed82c3c2d3bb784c875653556cfc9da8a6d/rtems-libbsd”
211c5ed/rtems-libbsd]:

```
1 pf02: Fix shell environmnet initialization
2
3 Close #4654.
```

Author: Trac Migrate 2022-05-13T06:53:13.000Z

Original author: sebastian.huber

In [changeset:”ae635eb21422c5066ef34742195d45a9fb04c777/rtems-libbsd”
ae635eb/rtems-libbsd]:

```
1 pfctl: Fix global state initialization
2
3 Update #4654.
```

Author: Chris Johns 2025-09-19T01:11:10.590Z

changed the description

4.2.1.53 4653 - pfctl: Fix global state initialization

Id	4653
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-05-11T11:37:02.000Z
Updated	2025-09-19T01:11:10.330Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4653
Merges	0

Original author: sebastian.huber

The last update introduced a static variable in `get_query_socket()` which was not initialized.

Author: Trac Migrate 2022-05-11T13:21:02.000Z

Original author: sebastian.huber

In [changeset:”d1b5468caa43c647c423092ea88b880bd80d0d38/rtems-libbsd”
d1b5468/rtems-libbsd]:

```

1 pf02: Fix shell environment initialization
2
3 Update #4653.

```

Author: Trac Migrate 2022-05-11T13:21:04.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"e00ca96b98a2a2744da3b7b0c7707a17c6b7baba/rtems-libbsd" e00ca96/rtems-libbsd]:

```

1 pfctl: Fix global state initialization
2
3 Close #4653.

```

Author: Chris Johns 2025-09-19T01:11:10.391Z

changed the description

Author: Chris Johns 2025-09-19T01:11:10.684Z

mentioned in issue #4654

4.2.1.54 4652 - if_atsam: Fix checksum offload, add multicast and VLAN support (cloned)

Id	4652
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-05-11T06:48:48.000Z
Updated	2025-09-19T01:11:10.052Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4652
Merges	0

Original author: sebastian.huber

Cloned from #4651:

The if_atsam network interface driver has several issues. Do not disable the FCS if the checksum offload is disabled. Make sure the interface capabilities are enabled. Add multicast and VLAN

support. Use the interface transmit method instead of the interface start approach. Correct a potential receive starvation error. Fix the interface up/down.

Author: Trac Migrate 2022-05-11T13:53:53.000Z

Original author: sebastian.huber

In [changeset:"2556c4c3366cdb473a49ceefdb55e7eafeeda17c/rtems-libbsd" 2556c4c/rtems-libbsd]:

```
1 if_atsam: Fix warnings
2
3 Update #4652.
```

Author: Trac Migrate 2022-05-11T13:53:54.000Z

Original author: sebastian.huber

In [changeset:"7e082f6656e36d93c91842228989e5c9f63190de/rtems-libbsd" 7e082f6/rtems-libbsd]:

```
1 if_atsam: Enable all capabilities
2
3 Update #4652.
```

Author: Trac Migrate 2022-05-11T13:53:55.000Z

Original author: sebastian.huber

In [changeset:"adda3a5a6df1bdc1a1934ea5ba290f5b29cef0d0/rtems-libbsd" adda3a5/rtems-libbsd]:

```
1 if_atsam: Do not disable the Ethernet CRC
2
3 The Ethernet CRC and padding must be always generated by the MAC.
4
5 Update #4652.
```

Author: Trac Migrate 2022-05-11T13:53:57.000Z

Original author: sebastian.huber

In [changeset:"975916a75d88b48f6e4dc6bc223982db35ae5432/rtems-libbsd" 975916a/rtems-libbsd]:

```
1 if_atsam: Fix interrupt setup
2
3 The interrupt is enabled by rtems_interrupt_handler_install().
```

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4
5 Update [#4652](#).

Author: Trac Migrate 2022-05-11T13:53:58.000Z

Original author: sebastian.huber

In [changeset:"123001143504c18e0dd970c3651b76a6165390d3/rtems-libbsd"
1230011/rtems-libbsd]:

1 if_atsam: Fix start/stop of interface
2
3 Update [#4652](#).

Author: Trac Migrate 2022-05-11T13:53:59.000Z

Original author: sebastian.huber

In [changeset:"c944cb9325032bdfc0aae369b6ae2ff466086f87/rtems-libbsd"
c944cb9/rtems-libbsd]:

1 if_atsam: Add multicast support
2
3 Update [#4652](#).

Author: Trac Migrate 2022-05-11T13:54:01.000Z

Original author: sebastian.huber

In [changeset:"2cb974fa20a0918a87f1171d20b721ce12e41031/rtems-libbsd"
2cb974f/rtems-libbsd]:

1 if_atsam: Optimize transmit
2
3 Use the transmit interface handler to avoid a transmit task/interrupt.
4 Use a **compile**-time constant **for** the transmit DMA descriptor count to
5 simplify calculations.
6
7 Update [#4652](#).

Author: Trac Migrate 2022-05-11T13:54:02.000Z

Original author: sebastian.huber

In [changeset:"967613fbce1e7434704aed05f711eb25db27b807/rtems-libbsd"
967613f/rtems-libbsd]:

```

1 if_atsam: Optimize receive
2
3 Do not use the interface mutex in the receive loop. Avoid multiple
4 reads of DMA descriptor words. Use a compile-time constant for the
5 receive DMA descriptor count to simplify calculations.
6
7 Update #4652.

```

Author: Trac Migrate 2022-05-11T13:54:03.000Z

Original author: sebastian.huber

In [changeset:"821bcb73450c6f1fce014e9bd3f99d8f5a52712a/rtems-libbsd"
821bcb7/rtems-libbsd]:

```

1 if_atsam: Support IFCAP_VLAN_HWTAGGING
2
3 This is required to enable checksum offload for vlan interfaces.
4
5 Update #4652.

```

Author: Trac Migrate 2022-05-11T13:54:05.000Z

Original author: sebastian.huber

In [changeset:"989675ee7cc65a332e20f446bf201bad696c3b4a/rtems-libbsd"
989675e/rtems-libbsd]:

```

1 if_atsam: Do not use rtems_bsdnet_newproc()
2
3 Update #4652.

```

Author: Trac Migrate 2022-05-11T13:54:06.000Z

Original author: sebastian.huber

In [changeset:"4ad09617d030ab9847d98f60dfc85ae29792bc9d/rtems-libbsd"
4ad0961/rtems-libbsd]:

```

1 if_atsam: Support transmit bpf
2
3 Update #4652.

```

Author: Trac Migrate 2022-05-11T13:54:07.000Z

Original author: sebastian.huber

In [changeset:"e992d45b6303cfcdc0a7e88636ce5a655732edbc/rtems-libbsd" e992d45/rtems-libbsd]:

```
1 if_atsam: Fix interface stop
2
3 Update #4652.
```

Author: Trac Migrate 2022-05-11T14:01:46.000Z

Original author: sebastian.huber

In [changeset:"73c764a70e554f16e16a474bfd658120553e0654/rtems-libbsd" 73c764a/rtems-libbsd]:

```
1 if_atsam: Fix warnings
2
3 Update #4652.
```

Author: Trac Migrate 2022-05-11T14:01:48.000Z

Original author: sebastian.huber

In [changeset:"c58bb6095a040511ef9c17cc92e573c66569a266/rtems-libbsd" c58bb60/rtems-libbsd]:

```
1 if_atsam: Enable all capabilities
2
3 Update #4652.
```

Author: Trac Migrate 2022-05-11T14:01:49.000Z

Original author: sebastian.huber

In [changeset:"5b62a8bfa19875cbf0a38b0419e107b06ff61472/rtems-libbsd" 5b62a8b/rtems-libbsd]:

```
1 if_atsam: Do not disable the Ethernet CRC
2
3 The Ethernet CRC and padding must be always generated by the MAC.
4
5 Update #4652.
```

Author: Trac Migrate 2022-05-11T14:01:50.000Z

Original author: sebastian.huber

In [changeset:"339ba3dd9f10947de976621603874bb47841ce2e/rtems-libbsd" 339ba3d/rtems-libbsd]:

```
1 if_atsam: Fix interrupt setup
2
3 The interrupt is enabled by rtems_interrupt_handler_install().
4
5 Update #4652.
```

Author: Trac Migrate 2022-05-11T14:01:51.000Z

Original author: sebastian.huber

In [changeset:"f4efcbfda5c2acb05058aa494d85d7b0e43571e6/rtems-libbsd"
f4efcbf/rtems-libbsd]:

```
1 if_atsam: Fix start/stop of interface
2
3 Update #4652.
```

Author: Trac Migrate 2022-05-11T14:01:53.000Z

Original author: sebastian.huber

In [changeset:"3150b3702284584c55c91d1e27282d19fd3c2b4c/rtems-libbsd"
3150b37/rtems-libbsd]:

```
1 if_atsam: Add multicast support
2
3 Update #4652.
```

Author: Trac Migrate 2022-05-11T14:01:54.000Z

Original author: sebastian.huber

In [changeset:"6be24bd16a6d649e69752ca3b0bf11b4a0b59725/rtems-libbsd"
6be24bd/rtems-libbsd]:

```
1 if_atsam: Optimize transmit
2
3 Use the transmit interface handler to avoid a transmit task/interrupt.
4 Use a compile-time constant for the transmit DMA descriptor count to
5 simplify calculations.
6
7 Update #4652.
```

Author: Trac Migrate 2022-05-11T14:01:55.000Z

Original author: sebastian.huber

In [changeset:"62fc2b6a036e0a6804eb9b877e17993932157bb3/rtems-libbsd" 62fc2b6/rtems-libbsd]:

```
1 if_atsam: Optimize receive
2
3 Do not use the interface mutex in the receive loop. Avoid multiple
4 reads of DMA descriptor words. Use a compile-time constant for the
5 receive DMA descriptor count to simplify calculations.
6
7 Update #4652.
```

Author: Trac Migrate 2022-05-11T14:01:56.000Z

Original author: sebastian.huber

In [changeset:"202502a397d00be3f3671b6809b30638bfb99c3a/rtems-libbsd" 202502a/rtems-libbsd]:

```
1 if_atsam: Support IFCAP_VLAN_HWTAGGING
2
3 This is required to enable checksum offload for vlan interfaces.
4
5 Update #4652.
```

Author: Trac Migrate 2022-05-11T14:01:58.000Z

Original author: sebastian.huber

In [changeset:"5c4ac7a91774569a0a21ff800b5501c706205e75/rtems-libbsd" 5c4ac7a/rtems-libbsd]:

```
1 if_atsam: Do not use rtems_bsdnet_newproc()
2
3 Update #4652.
```

Author: Trac Migrate 2022-05-11T14:01:59.000Z

Original author: sebastian.huber

In [changeset:"8039d70d94162da8db69902e4972c12ba0e883a6/rtems-libbsd" 8039d70/rtems-libbsd]:

```
1 if_atsam: Support transmit bpf
2
3 Update #4652.
```

Author: Trac Migrate 2022-05-11T14:02:00.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”38e1610af23f33d6adb7da6638f0f0347b2276dd/rtems-libbsd”
38e1610/rtems-libbsd]:

```
1 if_atsam: Fix interface stop
2
3 Close #4652.
```

Author: Trac Migrate 2022-06-01T07:52:38.000Z

Original author: sebastian.huber

In [changeset:”07e282034ccf97278bb1e62db232b98fe73d0df7/rtems-libbsd”
07e2820/rtems-libbsd]:

```
1 if_atsam: Allow stats reset via sysctl
2
3 Update #4652.
```

Author: Trac Migrate 2022-06-01T07:52:39.000Z

Original author: sebastian.huber

In [changeset:”683bae95b3c28c777095f87e92cbcf633aa33435/rtems-libbsd”
683bae9/rtems-libbsd]:

```
1 if_atsam: Add register sysctls
2
3 Update #4652.
```

Author: Trac Migrate 2022-06-01T07:52:40.000Z

Original author: sebastian.huber

In [changeset:”bd56cb2e59a5064255ac693d0cac7625f027a2e6/rtems-libbsd”
bd56cb2/rtems-libbsd]:

```
1 if_atsam: Add tx/rx desc sysctls
2
3 Update #4652.
```

Author: Trac Migrate 2022-06-01T07:52:42.000Z

Original author: sebastian.huber

In [changeset:”8588e9542ed69d3acd835b3ba3df70f50866873e/rtems-libbsd”
8588e95/rtems-libbsd]:

```

1 if_atsam: Shorten sysctl names
2
3 Update #4652.
```

Author: Trac Migrate 2022-06-01T07:52:43.000Z

Original author: sebastian.huber

In [changeset:"61f646d9b90b161e6b8676111241817658017ece/rtems-libbsd" 61f646d/rtems-libbsd]:

```

1 if_atsam: Recover from receive freezes
2
3 Under unknown conditions the receive path ended up in a frozen state.
4 In this state, the DMA and driver descriptor head were equal and all
5 receive descriptors had the used bit set. So, the DMA was unable to
6 store received frames. However, the receive daemon was never woken up
7 to refill the receive buffers. It seems that the RXUBR interrupt can be
8 used to recover from this state.
9
10 Update #4652.
```

Author: Trac Migrate 2022-06-01T07:53:41.000Z

Original author: sebastian.huber

In [changeset:"5650e92685929911d7feefd3ec4bcf9d36fc249d/rtems-libbsd" 5650e92/rtems-libbsd]:

```

1 if_atsam: Allow stats reset via sysctl
2
3 Update #4652.
```

Author: Trac Migrate 2022-06-01T07:53:42.000Z

Original author: sebastian.huber

In [changeset:"eb58e8219751873d6afccbda8a0a6e1a2aec9c44/rtems-libbsd" eb58e82/rtems-libbsd]:

```

1 if_atsam: Add register sysctls
2
3 Update #4652.
```

Author: Trac Migrate 2022-06-01T07:53:43.000Z

Original author: sebastian.huber

In [changeset:"1ed12b8af7627ca80461a09098ce4f8ca4973454/rtems-libbsd" 1ed12b8/rtems-libbsd]:

```
1 if_atsam: Add tx/rx desc sysctls
2
3 Update #4652.
```

Author: Trac Migrate 2022-06-01T07:53:45.000Z

Original author: sebastian.huber

In [changeset:"eea3f0eec3a0e1029e6a2b3589a754c7f301be35/rtems-libbsd" eea3f0e/rtems-libbsd]:

```
1 if_atsam: Shorten sysctl names
2
3 Update #4652.
```

Author: Trac Migrate 2022-06-01T07:53:46.000Z

Original author: sebastian.huber

In [changeset:"9e87868ec21acde84707a8807151ec42c09983bd/rtems-libbsd" 9e87868/rtems-libbsd]:

```
1 if_atsam: Recover from receive freezes
2
3 Under unknown conditions the receive path ended up in a frozen state.
4 In this state, the DMA and driver descriptor head were equal and all
5 receive descriptors had the used bit set. So, the DMA was unable to
6 store received frames. However, the receive daemon was never woken up
7 to refill the receive buffers. It seems that the RXUBR interrupt can be
8 used to recover from this state.
9
10 Update #4652.
```

Author: Chris Johns 2025-09-19T01:11:10.124Z

changed the description

4.2.1.55 4651 - if_atsam: Fix checksum offload, add multicast and VLAN support

Id	4651
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-05-11T06:48:30.000Z
Updated	2025-09-19T01:11:09.892Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4651
Merges	0

Original author: sebastian.huber

The if_atsam network interface driver has several issues. Do not disable the FCS if the checksum offload is disabled. Make sure the interface capabilities are enabled. Add multicast and VLAN support. Use the interface transmit method instead of the interface start approach. Correct a potential receive starvation error. Fix the interface up/down.

Author: Trac Migrate 2022-05-12T05:39:56.000Z

Original author: sebastian.huber

In [changeset:"a4b878cde821f5df74725771cc439402d00d4945/rtems-libbsd" a4b878c/rtems-libbsd]:

```
1 if_atsam: Fix warnings
2
3 Update #4651.
```

Author: Trac Migrate 2022-05-12T05:39:58.000Z

Original author: sebastian.huber

In [changeset:"79e742182f02d603b2bb4dca30d73f17a594f915/rtems-libbsd" 79e7421/rtems-libbsd]:

```
1 if_atsam: Enable all capabilities
2
3 Update #4651.
```

Author: Trac Migrate 2022-05-12T05:39:59.000Z

Original author: sebastian.huber

In [changeset:"4780eff5c5feebcd6f37e83615f9056c10d564d/rtems-libbsd" 4780eff/rtems-libbsd]:

```

1 if_atsam: Do not disable the Ethernet CRC
2
3 The Ethernet CRC and padding must be always generated by the MAC.
4
5 Update #4651.

```

Author: Trac Migrate 2022-05-12T05:40:00.000Z

Original author: sebastian.huber

In [changeset:"46ec9d75b3fe1fc4a90909ecbf732da1be254df0/rtems-libbsd"
46ec9d7/rtems-libbsd]:

```

1 if_atsam: Fix interrupt setup
2
3 The interrupt is enabled by rtems_interrupt_handler_install().
4
5 Update #4651.

```

Author: Trac Migrate 2022-05-12T05:40:02.000Z

Original author: sebastian.huber

In [changeset:"1fe1bc6de4230f962202e47b8be9b8a7ea12598f/rtems-libbsd"
1fe1bc6/rtems-libbsd]:

```

1 if_atsam: Fix start/stop of interface
2
3 Update #4651.

```

Author: Trac Migrate 2022-05-12T05:40:03.000Z

Original author: sebastian.huber

In [changeset:"58162da5f2e3f94bb19a5412df7e20f484ceb11d/rtems-libbsd"
58162da/rtems-libbsd]:

```

1 if_atsam: Add multicast support
2
3 Update #4651.

```

Author: Trac Migrate 2022-05-12T05:40:05.000Z

Original author: sebastian.huber

In [changeset:"1fee8dd09510bdc1f7627ca978e50033eaf481a4/rtems-libbsd"
1fee8dd/rtems-libbsd]:

```

1 if_atsam: Optimize transmit
2
3 Use the transmit interface handler to avoid a transmit task/interrupt.
4 Use a compile-time constant for the transmit DMA descriptor count to
5 simplify calculations.
6
7 Update #4651.
```

Author: Trac Migrate 2022-05-12T05:40:06.000Z

Original author: sebastian.huber

In [changeset:"204a4873d7f4fdc08e3ab736aa9e6e3cd3f42155/rtems-libbsd"
204a487/rtems-libbsd]:

```

1 if_atsam: Optimize receive
2
3 Do not use the interface mutex in the receive loop. Avoid multiple
4 reads of DMA descriptor words. Use a compile-time constant for the
5 receive DMA descriptor count to simplify calculations.
6
7 Update #4651.
```

Author: Trac Migrate 2022-05-12T05:40:07.000Z

Original author: sebastian.huber

In [changeset:"245ca940bb46b27e1c4f0757711b0ffa4ec6b31f/rtems-libbsd"
245ca94/rtems-libbsd]:

```

1 if_atsam: Support IFCAP_VLAN_HWTAGGING
2
3 This is required to enable checksum offload for vlan interfaces.
4
5 Update #4651.
```

Author: Trac Migrate 2022-05-12T05:40:09.000Z

Original author: sebastian.huber

In [changeset:"2a174be01e00d4eaacbb7030a3c4c05c509c2ff6/rtems-libbsd"
2a174be/rtems-libbsd]:

```

1 if_atsam: Do not use rtems_bsdnet_newproc()
2
3 Update #4651.
```

Author: Trac Migrate 2022-05-12T05:40:10.000Z

Original author: sebastian.huber

In [changeset:"c1b15c7558953b2844df1bc5731f7e3975dda839/rtems-libbsd"
c1b15c7/rtems-libbsd]:

```
1 if_atsam: Support transmit bpf
2
3 Update #4651.
```

Author: Trac Migrate 2022-05-12T05:40:12.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"a661df04dbc23f2974cd0f4d29036dc661f69881/rtems-libbsd"
a661df0/rtems-libbsd]:

```
1 if_atsam: Fix interface stop
2
3 Close #4651.
```

Author: Trac Migrate 2022-06-01T07:51:05.000Z

Original author: sebastian.huber

In [changeset:"f05e62515bc0dffe76fb8c456098f594f6f159a4/rtems-libbsd"
f05e625/rtems-libbsd]:

```
1 if_atsam: Allow stats reset via sysctl
2
3 Update #4651.
```

Author: Trac Migrate 2022-06-01T07:51:06.000Z

Original author: sebastian.huber

In [changeset:"8e5a933345848ddc8c2b93f1bfa07aadec5ebad6/rtems-libbsd"
8e5a933/rtems-libbsd]:

```
1 if_atsam: Add register sysctls
2
3 Update #4651.
```

Author: Trac Migrate 2022-06-01T07:51:08.000Z

Original author: sebastian.huber

In [changeset:"c78ec5967052da45e56acff09ae46307142ac068/rtems-libbsd" c78ec59/rtems-libbsd]:

```
1 if_atsam: Add tx/rx desc sysctls
2
3 Update #4651.
```

Author: Trac Migrate 2022-06-01T07:51:09.000Z

Original author: sebastian.huber

In [changeset:"62d320d47841da54428ac663c64054599b00e768/rtems-libbsd" 62d320d/rtems-libbsd]:

```
1 if_atsam: Shorten sysctl names
2
3 Update #4651.
```

Author: Trac Migrate 2022-06-01T07:51:10.000Z

Original author: sebastian.huber

In [changeset:"29f9822bace17fe6189a0048b7591a5188cdc329/rtems-libbsd" 29f9822/rtems-libbsd]:

```
1 if_atsam: Recover from receive freezes
2
3 Under unknown conditions the receive path ended up in a frozen state.
4 In this state, the DMA and driver descriptor head were equal and all
5 receive descriptors had the used bit set. So, the DMA was unable to
6 store received frames. However, the receive daemon was never woken up
7 to refill the receive buffers. It seems that the RXUBR interrupt can be
8 used to recover from this state.
9
10 Update #4651.
```

Author: Chris Johns 2025-09-19T01:11:09.951Z

changed the description

Author: Chris Johns 2025-09-19T01:11:10.240Z

mentioned in issue #4652

4.2.1.56 4650 - tcpdump: Fix dumping to file and reading from file (cloned)

Id	4650
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-05-11T06:44:34.000Z
Updated	2025-09-19T01:11:09.619Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4650
Merges	0

Original author: sebastian.huber

Cloned from [#4649](#):

When dumping to file, the file needs to be closed at program exit. When reading from file, we do not need the loop monitor. Do not use signals, since they are not cleaned up at program exit.

Author: Trac Migrate 2022-05-12T05:41:43.000Z

Original author: sebastian.huber

In [changeset:"a4c3d7468a93dda77a417b893f98bd9b14d01674/rtems-libbsd"
a4c3d74/rtems-libbsd]:

```
1 tcpdump01: New test
2
3 Update #4650.
```

Author: Trac Migrate 2022-05-12T05:41:44.000Z

Original author: sebastian.huber

In [changeset:"7bc7bae957ab1abccc69ca6c9edad0ce923d4f31/rtems-libbsd"
7bc7bae/rtems-libbsd]:

```
1 Add program destructor support
2
3 Update #4650.
```

Author: Trac Migrate 2022-05-12T05:41:46.000Z

Original author: sebastian.huber

In [changeset:"bd2201b9df71cde5032b2fdc52a0ad2977915cbd/rtems-libbsd"
bd2201b/rtems-libbsd]:

```

1 tcpdump: Make loop monitor cooperative
2
3 This helps a bit if the fgetc() is non-blocking.
4
5 Update #4650.

```

Author: Trac Migrate 2022-05-12T05:41:47.000Z

Original author: sebastian.huber

In [changeset:"face369437c00b28663e83ecd3b95f76ab60a8f8/rtems-libbsd" face369/rtems-libbsd]:

```

1 tcpdump: Use rtems_task_exit()
2
3 Update #4650.

```

Author: Trac Migrate 2022-05-12T05:41:49.000Z

Original author: sebastian.huber

In [changeset:"869cb1adc1ec4c1fee7f97db66ac3de5bffa13ae/rtems-libbsd" 869cb1a/rtems-libbsd]:

```

1 tcpdump: Close pcap dumper at program exit
2
3 Update #4650.

```

Author: Trac Migrate 2022-05-12T05:41:50.000Z

Original author: sebastian.huber

In [changeset:"70c9ac2771e59700088815db7e75df68d7f55364/rtems-libbsd" 70c9ac2/rtems-libbsd]:

```

1 tcpdump: No loop monitor if reading from file
2
3 Update #4650.

```

Author: Trac Migrate 2022-05-12T05:41:51.000Z

Original author: sebastian.huber

In [changeset:"45dfdc1c527c4953e4229f5b6e28883d0fefa7c0/rtems-libbsd" 45dfdc1/rtems-libbsd]:

```
1 tcpdump: Ensure loop monitor termination
2
3 Update #4650.
```

Author: Trac Migrate 2022-05-12T05:41:53.000Z

Original author: sebastian.huber

In [changeset:"584dd8d94015929a9727c13ba28d18237132d13e/rtems-libbsd" 584dd8d/rtems-libbsd]:

```
1 tcpdump: Do not use signals and chroot
2
3 Update #4650.
```

Author: Trac Migrate 2022-05-12T05:44:15.000Z

Original author: sebastian.huber

In [changeset:"544ba25fb2e7768c112d922a2fd1d1d06c9dfb96/rtems-libbsd" 544ba25/rtems-libbsd]:

```
1 tcpdump01: New test
2
3 Update #4650.
```

Author: Trac Migrate 2022-05-12T05:44:19.000Z

Original author: sebastian.huber

In [changeset:"c6212520abc119a4b49f7f513adb45c46ac3fc62/rtems-libbsd" c621252/rtems-libbsd]:

```
1 Add program destructor support
2
3 Update #4650.
```

Author: Trac Migrate 2022-05-12T05:44:22.000Z

Original author: sebastian.huber

In [changeset:"479b4de6f19d9fcf1818447474fc00cd6754f406/rtems-libbsd" 479b4de/rtems-libbsd]:

```
1 tcpdump: Make loop monitor cooperative
2
3 This helps a bit if the fgetc() is non-blocking.
```

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(continued from previous page)

4
5 Update [#4650](#).

Author: Trac Migrate 2022-05-12T05:44:26.000Z

Original author: sebastian.huber

In [\[changeset:"6fb7134a91b8f6da9165fd2484a8e0f4545b390e/rtems-libbsd"6fb7134/rtems-libbsd\]](#):

1 tcpdump: Use rtems_task_exit()
2
3 Update [#4650](#).

Author: Trac Migrate 2022-05-12T05:44:29.000Z

Original author: sebastian.huber

In [\[changeset:"011f4894e042469507cbe55295415446eaaa7cfe/rtems-libbsd"011f489/rtems-libbsd\]](#):

1 tcpdump: Close pcap dumper at program exit
2
3 Update [#4650](#).

Author: Trac Migrate 2022-05-12T05:44:33.000Z

Original author: sebastian.huber

In [\[changeset:"c9b44ba907c959630286886b8a98bc848ecd9a70/rtems-libbsd"c9b44ba/rtems-libbsd\]](#):

1 tcpdump: No loop monitor **if** reading **from file**
2
3 Update [#4650](#).

Author: Trac Migrate 2022-05-12T05:44:36.000Z

Original author: sebastian.huber

In [\[changeset:"32ebbd376764b6f1c127e758bce2b27ce1e87c62/rtems-libbsd"32ebbd3/rtems-libbsd\]](#):

1 tcpdump: Ensure loop monitor termination
2
3 Update [#4650](#).

Author: Trac Migrate 2022-05-12T05:44:39.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"5ad77a9a189c28447c1257b0d0dd6210dabb77e2/rtems-libbsd" 5ad77a9/rtems-libbsd]:

```
1 tcpdump: Do not use signals and chroot
2
3 Close #4650.
```

Author: Chris Johns 2025-09-19T01:11:09.698Z

changed the description

4.2.1.57 4649 - tcpdump: Fix dumping to file and reading from file

Id	4649
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-05-11T06:44:07.000Z
Updated	2025-09-19T01:11:09.455Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4649
Merges	0

Original author: sebastian.huber

When dumping to file, the file needs to be closed at program exit. When reading from file, we do not need the loop monitor. Do not use signals, since they are not cleaned up at program exit.

Author: Trac Migrate 2022-05-11T06:44:56.000Z

Original author: sebastian.huber

- **Version** set to ~"5"

Author: Trac Migrate 2022-05-12T05:49:33.000Z

Original author: sebastian.huber

In [changeset:"6364f4534ec93c230070c78513f7ad158e85d764/rtems-libbsd" 6364f45/rtems-libbsd]:

```
1 tcpdump01: New test
2
3 Update #4649.
```

Author: Trac Migrate 2022-05-12T05:49:36.000Z

Original author: sebastian.huber

In [changeset:"5c88a52bcc07c8fc238d50185af94f5f5dfa6c18/rtems-libbsd" 5c88a52/rtems-libbsd]:

```
1 Add program destructor support
2
3 Update #4649.
```

Author: Trac Migrate 2022-05-12T05:49:40.000Z

Original author: sebastian.huber

In [changeset:"a5bdd7ae40a3031a86fd5d061c4c1a9920e40686/rtems-libbsd" a5bdd7a/rtems-libbsd]:

```
1 tcpdump: Make loop monitor cooperative
2
3 This helps a bit if the fgetc() is non-blocking.
4
5 Update #4649.
```

Author: Trac Migrate 2022-05-12T05:49:43.000Z

Original author: sebastian.huber

In [changeset:"d5fdffb77ae5c23c4039dd27f24808d016291060/rtems-libbsd" d5fdffb/rtems-libbsd]:

```
1 tcpdump: Use rtems_task_exit()
2
3 Update #4649.
```

Author: Trac Migrate 2022-05-12T05:49:47.000Z

Original author: sebastian.huber

In [changeset:"cb01e5b2a190c21937bf8c87ad485d768f10a7ed/rtems-libbsd" cb01e5b/rtems-libbsd]:

```

1 tcpdump: Close pcap dumper at program exit
2
3 Update #4649.

```

Author: Trac Migrate 2022-05-12T05:49:50.000Z

Original author: sebastian.huber

In [changeset:"47ec4b85e5ed45b88ae20fcff0a67a7afae1d060/rtems-libbsd" 47ec4b8/rtems-libbsd]:

```

1 tcpdump: No loop monitor if reading from file
2
3 Update #4649.

```

Author: Trac Migrate 2022-05-12T05:49:54.000Z

Original author: sebastian.huber

In [changeset:"45c9bd23a025d3868fdf4776115ec80315d92d3c/rtems-libbsd" 45c9bd2/rtems-libbsd]:

```

1 tcpdump: Ensure loop monitor termination
2
3 Update #4649.

```

Author: Trac Migrate 2022-05-12T05:49:57.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"ea80d58015934504f6af1bdfafe8626579f86c82/rtems-libbsd" ea80d58/rtems-libbsd]:

```

1 tcpdump: Do not use signals and chroot
2
3 Close #4649.

```

Author: Chris Johns 2025-09-19T01:11:09.509Z

changed the description

Author: Chris Johns 2025-09-19T01:11:09.797Z

mentioned in issue #4650

4.2.1.58 4644 - wkspc “failed allocations” increase with heap protection enabled (cloned)

Id	4644
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-04-28T06:52:10.000Z
Updated	2025-09-19T01:11:09.219Z
Milestone	5.1
Labels	priority::low, resolution::fixed, rtems::score, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4644
Merges	0

Original author: mfletcher

Cloned from [#4643](#):

Investigating the “Total number of failed allocations:” from the wkspc cmd i see that;

```
/* Statistics */ ++stats->failed_allocs;
```

Are incremented when `_Heap_Allocate_aligned_with_boundary` fails, however it seems this will routinely fail due to;

`_Heap_Protection_free_all_delayed_blocks` seemingly on purpose creating an impossibly large allocation.

```
uintptr_t large = 0 * (uintptr_t) HEAP_BLOCK_HEADER_SIZE * (uintptr_t)
HEAP_ALLOC_BONUS * (uintptr_t) 1;
```

```
void *p = _Heap_Allocate( heap, large );
```

This makes it difficult to place a breakpoint on `failed_allocs` to investigate true low memory situations with heap protection enabled.

Author: Trac Migrate 2022-04-28T07:13:22.000Z

Original author: mfletcher

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”8b18037f203b2b2dfceae4fb46e7eca388f229ad/rtems”
8b18037f/rtems]:

```
1 heap: Fix heap statistics with protection enabled
2
3 Close #4644.
```

Author: Chris Johns 2025-09-19T01:11:09.290Z

changed the description

4.2.1.59 4643 - wkspc “failed allocations” increase with heap protection enabled

Id	4643
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-04-13T19:10:00.000Z
Updated	2025-09-19T01:11:09.127Z
Milestone	5.1
Labels	priority::low, resolution::fixed, rtems::score, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4643
Merges	1

Original author: mfletcher

Investigating the “Total number of failed allocations:” from the wkspc cmd i see that;

```
/* Statistics */ ++stats->failed_allocs;
```

Are incremented when `_Heap_Allocate_aligned_with_boundary` fails, however it seems this will routinely fail due to;

`_Heap_Protection_free_all_delayed_blocks` seemingly on purpose creating an impossibly large allocation.

```
uintptr_t large = 0 * (uintptr_t) HEAP_BLOCK_HEADER_SIZE * (uintptr_t)
HEAP_ALLOC_BONUS * (uintptr_t) 1;
```

```
void *p = _Heap_Allocate( heap, large );
```

This makes it difficult to place a breakpoint on `failed_allocs` to investigate true low memory situations with heap protection enabled.

Author: Trac Migrate 2022-05-04T13:53:20.000Z

Original author: mfletcher

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”be5d2bc03d2c5d86489cb24d3b88e95a4b1221f8/rtems”
be5d2bc0/rtems]:

```
1 heap: Fix heap statistics with protection enabled
2
3 Close #4643.
```

Author: Chris Johns 2025-09-19T01:03:52.515Z

changed the description

Author: Chris Johns 2025-09-19T01:11:09.375Z

mentioned in issue [#4644](#)

4.2.1.60 4638 - Error in imfs memfile when device is full

Id	4638
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2022-04-04T13:30:39.000Z
Updated	2025-09-19T01:11:09.018Z
Milestone	5.1
Labels	filesystem, old-indefinite, priority::normal, resolution::fixed, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4638
Merges	1

The problem from [#2353](#) still exists in 5 and 6:

Original description:

From the reporter ([<skruglov@nm.ru>](mailto:skruglov@nm.ru)):

- First bug I detect with attempt write file to full device (zero empty blocks).
- And after I send too many files, disk overflow and system not responding (receive and write to disk have high priority). A test, and found block=0, after – = too big value.
- In imfs_memfile.c

function IMFS_memfile_extend block declared: unsigned int block, and after block— work incorrect (if block = 0). for (; block>=old_blocks ; block–) { IMFS_memfile_remove_block(memfile, block); }

Must be declare int block;

Author: Trac Migrate 2022-04-07T08:29:40.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [\[changeset:”fc89cc76804499eba3f3bc4097b795a84f07571a/rtems”fc89cc7/rtems\]](#):

```

1 imfs: Fix index underrun when extending empty file
2
3 Currently the following sequence causes a endless loop when extending an
4 IMFS file:
```

(continues on next page)

(continued from previous page)

```

5
6 - Create a file with zero length and close it.
7 - Make sure nearly no allocatable memory is left.
8 - Open the file and write enough data into it that more than the
9 remaining memory will be used.
10
11 In that case when extending the IMFS file, the file currently need zero
12 blocks. If allocating enough new blocks fails, the already allocated new
13 blocks will be freed again.
14
15 The comparison of block>=old_blocks that has been used prior to this
16 patch compared two unsigned numbers. If old_blocks was zero, the
17 comparison of these two numbers always evaluated to true.
18
19 This patch frees the last block in a separate step to avoid this
20 problem.
21
22 Fixes #4638

```

Author: Amar Takhar 2025-09-05T02:57:52.611Z

changed the description

4.2.1.61 4627 - Multitasking start is broken on SMP targets which do not restore the interrupt state during context switching

Id	4627
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-03-08T08:22:44.000Z
Updated	2025-09-19T01:11:08.919Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4627
Merges	0

Original author: sebastian.huber

The current SMP multitasking start assumed that the initial heir thread of a processor starts execution in `_Thread_Handler()` which sets the interrupt state explicitly by `_ISR_Set_level()`. Under certain timing conditions processors may perform an initial context switch to a thread which already executes its thread body. In this case, interrupts are disabled after the context switch on targets which do not save/restore the interrupt state during a context switch (for example arm and riscv).

Author: Trac Migrate 2022-03-08T08:37:38.000Z

Original author: sebastian.huber

In [changeset:"b08ba92819640e4649d1f8de3fa78068369d0a11/rtems" b08ba92/rtems]:

```
1 smptests/smpstart01: New test program
2
3 Update #4627.
```

Author: Trac Migrate 2022-03-09T20:01:37.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"32f0f11a68d3aa521f0398c9b8eec3d47f114c5e/rtems" 32f0f11/rtems]:

```
1 SMP: Fix start multitasking for some targets
2
3 The previous SMP multitasking start assumed that the initial heir_
4 ↪thread of a
5 processor starts execution in _Thread_Handler(). The _Thread_Handler()_
6 ↪sets
7 the interrupt state explicitly by _ISR_Set_level() before it calls the_
8 ↪thread
9 entry. Under certain timing conditions, processors may perform an_
10 ↪initial
11 context switch to a thread which already executes its thread body (see
12 smptests/smpstart01). In this case, interrupts are disabled after the_
13 ↪context
14 switch on targets which do not save/restore the interrupt state during a
15 context switch (aarch64, arm, and riscv).
16
17 Close #4627.
```

Author: Amar Takhar 2024-04-25T20:49:46.664Z

changed the description

4.2.1.62 4611 - BSP/atsam: UART driver sends data with a small gap

Id	4611
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-02-11T07:53:53.000Z
Updated	2025-09-19T01:11:08.831Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4611
Merges	1

Original author: Christian Mauderer

Cloned from [#4610](#):

The ATSAM UART waits for data to be completely send before queuing the next character. Due to that there is a small gap between two characters. This is only notable if the UART is 100% busy. For example if received data should be echoed back at maximum data rate the software buffer fills till it is full and then starts to loose characters.

Author: Trac Migrate 2022-02-15T13:38:26.000Z

Original author: Christian Mauderer

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"fc21b923ba8cf092c227f082d80b889bbf8c1bb9/rtems"fc21b923/rtems]:

```

1 bsp/atsam: Improve UART / USART tx performance
2
3 Put the next character into the send buffer if the buffer is empty and
4 not when the last character has been sent out to the line. This improves
5 the performance slightly.
6
7 Before that patch, the receive path was faster than the transmit path.
8 Therefore a simple echo could drop characters on a busy connection.
9 With this patch sending and receiving has about the same performance so
10 that no characters are lost.
11
12 Fixes #4611
```

Author: Chris Johns 2025-09-19T01:03:47.933Z

changed the description

4.2.1.63 4609 - support for DMA access

Id	4609
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-02-11T03:49:27.000Z
Updated	2025-09-19T01:11:08.698Z
Milestone	5.1
Labels	priority::normal, resolution::invalid, tickettype::defect, version::4.11, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4609
Merges	0

Original author: ostyleche

we modify the IDE hard disk drive architecture, improve the IDE hard disk drive function, and add support for DMA access. The relevant file paths are csrcliblibbspi386pc386ideidecfg.c, csrclibchipide. The files involved in the question were uploaded by git user ostyleche who created a branch at 10:55 am on February 11, 2022

Author: Chris Johns 2022-11-10T01:06:04.000Z

Original author: ostyleche

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*
- **Version** changed from ~"4.11" to ~"5"

Please reopen when being worked on or a fix is available.

Author: Chris Johns 2025-09-19T01:11:08.749Z

changed the description

4.2.1.64 4608 - Added support for Intel 82580

Id	4608
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-02-11T03:47:20.000Z
Updated	2025-09-19T01:11:08.563Z
Milestone	5.1
Labels	network::legacy, priority::normal, resolution::invalid, tickettype::defect, version::4.11, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4608
Merges	0

Original author: ostyle

Added support for Intel 82580 NIC drives. The relevant file path is cpukit82580. The files involved in the question were uploaded by git user ostyle who created a branch at 10:55 am on February 11, 2022

Author: Chris Johns 2022-11-10T01:05:29.000Z

Original author: ostyle

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*
- **Version** changed from ~"4.11" to ~"5"

Please reopen when being worked on or a fix is available.

Author: Chris Johns 2025-09-19T01:11:08.613Z

changed the description

4.2.1.65 4606 - TFTP server protocols

Id	4606
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-02-11T03:43:22.000Z
Updated	2025-09-19T01:11:08.428Z
Milestone	5.1
Labels	network::legacy, priority::normal, resolution::invalid, tickettype::defect, version::4.11, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4606
Merges	0

Original author: ostyle

RTEMS doesn't support TFTP server protocols.

Author: Chris Johns 2022-11-10T01:04:22.000Z

Original author: ostyle

- **Version** changed from ~"4.11" to ~"5"

Please reopen when being worked on or a fix is available.

Author: Chris Johns 2022-11-10T01:04:55.000Z

Original author: ostyle

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

Author: Chris Johns 2025-09-19T01:11:08.477Z

changed the description

4.2.1.66 4605 - TFTP client protocols

Id	4605
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-02-11T03:42:18.000Z
Updated	2025-09-19T01:11:08.293Z
Milestone	5.1
Labels	network::legacy, priority::normal, resolution::invalid, tickettype::defect, version::4.11, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4605
Merges	0

Original author: ostyle

RTEMS doesn't support TFTP client protocols.

Author: Chris Johns 2022-11-10T01:03:57.000Z

Original author: ostyle

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

- **Version** changed from ~"4.11" to ~"5"

It does support TFTP.

Author: Chris Johns 2025-09-19T01:11:08.344Z

changed the description

4.2.1.67 4603 - Added support for Intel I210

Id	4603
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-02-11T03:39:20.000Z
Updated	2025-09-19T01:11:08.154Z
Milestone	5.1
Labels	network::legacy, priority::normal, resolution::invalid, tickettype::defect, version::4.11, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4603
Merges	0

Original author: ostyche

Added support for Intel I210 NIC(Network Interface Card) drives.The relevant file path is cpuk-itI210The files involved in the question were uploaded by git user ostyche who created a branch at 10:55 am on February 11, 2022

Author: Chris Johns 2022-11-10T01:02:35.000Z

Original author: ostyche

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*
- **Version** changed from ~"4.11" to ~"5"

Please reopen when being worked on or a fix is available.

Author: Chris Johns 2025-09-19T01:11:08.208Z

changed the description

4.2.1.68 4602 - support commands such as rename

Id	4602
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-02-11T03:37:19.000Z
Updated	2025-09-19T01:11:08.003Z
Milestone	5.1
Labels	network::legacy, priority::normal, resolution::invalid, tickettype::defect, version::4.11, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4602
Merges	0

Original author: ostyle

We modify the FTP server code to support commands such as rename. The relevant file paths are cpukitftpd.c The files involved in the question were uploaded by git user ostyle who created a branch at 10:55 am on February 11, 2022

Author: Chris Johns 2022-11-10T01:01:51.000Z

Original author: ostyle

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*
- **Version** changed from ~"4.11" to ~"5"

Please reopen when being worked on or a fix is available.

Author: Chris Johns 2025-09-19T01:11:08.054Z

changed the description

4.2.1.69 4601 - support for 64KB clusters DOSFS

Id	4601
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-02-11T03:32:22.000Z
Updated	2025-09-19T01:11:07.814Z
Milestone	5.1
Labels	filesystem::fat, priority::normal, resolution::invalid, tickettype::defect, version::4.11, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4601
Merges	0

Original author: ostyle

Added support for 64KB clusters in DOSFS. The relevant file path is `cpukitlibfssrcdosfsmsdos_format.c`. The files involved in the question were uploaded by git user ostyle who created a branch at 10:55 am on February 11, 2022

Author: Chris Johns 2022-11-10T01:00:50.000Z

Original author: ostyle

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*
- **Version** changed from ~"4.11" to ~"5"

Please reopen when being worked on or a fix is available.

We do not know where the sources are you refer to.

Author: Chris Johns 2025-09-19T01:11:07.882Z

changed the description

4.2.1.70 4600 - non-alignment exception

Id	4600
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-02-11T03:30:07.000Z
Updated	2025-09-19T01:11:07.590Z
Milestone	5.1
Labels	mips, priority::normal, resolution::invalid, tickettype::defect, version::4.11, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4600
Merges	0

Original author: ostyle

We improved the exception handling mechanism under the MIPS architecture by handling non-alignment exception appropriately. The relevant file paths are `csrcliblibbspmipssharedirqvectorexceptions.c`, `csrcliblibbspmipssharedirqexception.S`

The files involved in the question were uploaded by git user ostyle who created a branch at 10:55 am on February 11, 2022

Author: Chris Johns 2022-11-10T00:59:32.000Z

Original author: ostyle

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*
- **Version** changed from ~"4.11" to ~"5"

Please reopen when being worked on or a fix is available.

Author: Chris Johns 2025-09-19T01:11:07.668Z

changed the description

4.2.1.71 4599 - support pmu under MIPS platform

Id	4599
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-02-11T03:25:59.000Z
Updated	2025-09-19T01:11:07.389Z
Milestone	5.1
Labels	mips, priority::normal, resolution::invalid, tickettype::defect, version::4.11, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4599
Merges	0

Original author: ostyleche

Added support for PMU(Performance Monitoring Unit) under MIPS platform.The relevant file path is csrcliblibbspmips sharedpmu The files involved in the question were uploaded by git user ostyleche who created a branch at 10:55 am on February 11, 2022

Author: Chris Johns 2022-11-10T00:58:51.000Z

Original author: ostyleche

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*
- **Version** changed from ~"4.11" to ~"5"

Please reopen when being worked on or a fix is available.

Author: Chris Johns 2025-09-19T01:11:07.470Z

changed the description

4.2.1.72 4598 - about MIPS architecture support

Id	4598
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-02-11T03:22:28.000Z
Updated	2025-09-19T01:11:07.081Z
Milestone	5.1
Labels	priority::normal, resolution::invalid, tickettype::defect, version::4.11, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4598
Merges	0

Original author: ostyleche

Added support for the board support package of Loongson Technology Corporation company's products-LS3A1000 processor. The relevant file path is csrcliblibbspmipsloongson3a

The files involved in the question were uploaded by git user ostyleche who created a branch at 10:55 am on February 11, 2022

Author: Gedare Bloom 2022-02-11T15:39:14.000Z

Original author: ostyleche

Hello ostyleche, is there an attachment or patch submission to the devel mailing list to go with this ticket? It sounds like you have a new MIPS BSP?

Author: Chris Johns 2022-11-10T00:58:15.000Z

Original author: ostyleche

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*
- **Version** changed from ~"4.11" to ~"5"

Please reopen when being worked on or a fix is available.

Author: Chris Johns 2025-09-19T01:11:07.213Z

changed the description

4.2.1.73 4591 - BSP/Atsam: I2C driver doesn't return errors on NACK

Id	4591
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-02-08T09:50:01.000Z
Updated	2025-09-19T01:11:06.949Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4591
Merges	1

Original author: Christian Mauderer

At the moment the I2C driver of the ATSAM doesn't return an error if a message is not acknowledged by the I2C device. The expected behavior would be to return a EIO.

Author: Trac Migrate 2022-02-11T07:38:44.000Z

Original author: Christian Mauderer

In [changeset:"f71c620f7e0bb073097a0da6f98f1e915f49cb1d/rtems" f71c620f/rtems]:

```

1 bsp/atsam/i2c: Simplify driver
2
3 Do some clean ups. Remove superfluous variables. Eliminate some overly
4 complex logic (information about transfer and remaining bytes has been
5 tracked redundantly in multiple variables).
6
7 This patch doesn't change the behavior of the driver.
8
9 Update #4591
```

Author: Trac Migrate 2022-02-11T07:38:48.000Z

Original author: Christian Mauderer

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"f7a204e3d7a501b629916a590571b163e85cf875/rtems" f7a204e/rtems]:

```

1 bsp/atsam/i2c: Add error return and fix edge cases
2
3 The driver didn't return with an error on (for example) a NACK on the
   (continues on next page)
```

(continued from previous page)

```

4 bus. This adds the expected error return. Due to the new case that a
5 transfer can be interrupted on an error, there were some new edge cases.
6 This patch therefore also fixes these edge cases by removing the
7 transfer_state that more or less duplicated the interrupt states.
8
9 Fixes #4591

```

Author: Chris Johns 2025-09-19T01:03:46.282Z

changed the description

Author: Chris Johns 2025-09-19T01:03:47.436Z

mentioned in issue #4592

4.2.1.74 4577 - arm/atsamv: UART loses receive characters when the system has a high interrupt load

Id	4577
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-01-13T07:22:41.000Z
Updated	2025-09-19T01:11:06.819Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4577
Merges	1

Original author: Christian Mauderer

The UART/USART of the ATSAM doesn't have any FIFO buffer. Therefore every received character has to be processed before the next one arrives. In situations with a high interrupt load or during long interrupt locks, this might not work reliable and the UART/USART can loose characters.

Author: Trac Migrate 2022-01-18T08:11:58.000Z

Original author: Christian Mauderer

In [changeset:"d9c0dd3c32aff23e33a567378b89f89342291e15/rtems"
d9c0dd3/rtems]:

```

1 bsp/atsam: Merge USART and UART driver
2

```

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```

3 If no extended features of the USART are used and if the comparison
4 feature of the UART is not used, the two modules are compatible. The
5 drivers were nearly identical except for some names of the defines.
6
7 This patch merges the two drivers into one.
8
9 Update #4577

```

Author: Trac Migrate 2022-01-18T08:12:02.000Z

Original author: Christian Mauderer

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"779847a5ef3eda256ddf05501153a484a8cea42e/rtems"779847a5/rtems]:

```

1 bsp/atsam: Optionally use DMA for UART Rx
2
3 If the system is busy with other interrupts and the UART is set to a
4 fast baud rate, it's possible to loose UART interrupts and therefore
5 characters. This allows to optionally enable a DMA for the UARTs so that
6 a number of lost interrupts can be tolerated.
7
8 The number of DMAs on this chip is limited and not not all applications
9 need that feature. Therefore the DMA is disabled by default.
10
11 Close #4577

```

Author: Chris Johns 2025-09-19T01:03:45.166Z

changed the description

Author: Chris Johns 2025-09-19T01:03:45.470Z

mentioned in issue [#4578](#)

4.2.1.75 4562 - Bump dtc on rtems5 to match rtems6

Id	4562
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-12-03T18:52:37.000Z
Updated	2025-09-19T01:11:06.412Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4562
Merges	0

Original author: rlong

The hash for dtc needs to be bumped to fix some build errors on rtems5.

Author: Trac Migrate 2021-12-15T14:02:07.000Z

Original author: rlong

- **Owner** set to Ryan Long <ryan.long@oarcorp.com>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"612c4d065e00fe8f5dcb8e81d3ee15d22ec8e2cb/rtems-source-builder" 612c4d0/rtems-source-builder]:

```

1 devel/dtc: Bump dtc hash to match rtems6
2
3 Bumped dtc version to get rid of build failure for dtc.
4
5 Closes #4562

```

Author: Chris Johns 2025-09-19T01:11:06.482Z

changed the description

4.2.1.76 4561 - Fix build issue with qemu4 on Ubuntu

Id	4561
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-12-03T18:47:42.000Z
Updated	2025-09-19T01:11:06.244Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5, version::6
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4561
Merges	0

Original author: rlong

The following issue occurs when trying to build qemu4 on Ubuntu.

```

1 /usr/bin/ld: linux-user/syscall.o: in function `do_syscall1':
2 /mnt/sdb/rtems-work/rtems-source-builder/bare/build/qemu-4.1.0-x86_64-linux-gnu-1/
  ↪ qemu-4.1.0/linux-user/syscall.c:7660: undefined reference to `stime'

```

Author: Trac Migrate 2021-12-03T18:54:45.000Z

Original author: rlong

This issue came up in the ROS port. It's been fixed, but we need to add in the patch. The issue and patch can be found here https://github.com/micro-ROS/micro_ros_setup/issues/397.

Author: Trac Migrate 2021-12-03T19:09:18.000Z

Original author: rlong

- **Milestone** changed from %"6.1" to %"5.1"
- **Version** changed from ~"6" to ~"5"

Author: Trac Migrate 2021-12-15T14:02:09.000Z

Original author: rlong

- **Owner** set to Ryan Long <ryan.long@oarcorp.com>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"2e98eecf864c513648982ee751585a1a6199bf18/rtems-source-builder" 2e98eec/rtems-source-builder]:

```

1 devel/qemu4: Add patches so qemu4 can build
2
3 These patches add patches that fix the build issues preventing qemu4
4 from building on Ubuntu.
5
6 Closes #4561

```

Author: Chris Johns 2025-09-19T01:11:06.310Z

changed the description

4.2.1.77 4556 - rtems_shell_main_mmove problem

Id	4556
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2021-12-02T14:03:20.000Z
Updated	2025-09-19T01:11:05.894Z
Milestone	5.1
Labels	cpukit::shell, priority::normal, resolution::fixed, rtems::shell, ticket-type::defect, version::5, version::6
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4556
Merges	0

Original author: chenjin_zhong

Hi, I think **mmove** command in shell means that the memory can be overlapped when copy happens. but I find that when implementing this function, the **memcpy** is used in RTEMS4.13/RTEMS5.1. Should the **memcpy** be replaced with **memmove** ? The src code is listed as follows. static int rtems_shell_main_mmove(int argc, char *argv[]) { unsigned long tmp; void *src; void *dst; size_t length;

```
if ( argc < 4 ) { fprintf(stderr,"%s: too few argumentsn", argv[0]); return -1; }
```

```
/* * Convert arguments into numbers */ if ( rtems_string_to_pointer(argv[1], &dst, NULL) ) {
printf( "Destination argument (%s) is not a numbern", argv[1] ); return -1; }
```

```
if ( rtems_string_to_pointer(argv[2], &src, NULL) ) { printf( "Source argument (%s) is not a
numbern", argv[2] ); return -1; }
```

```
if ( rtems_string_to_unsigned_long(argv[3], &tmp, NULL, 0) ) { printf( "Length argument (%s)
is not a numbern", argv[3] ); return -1; } length = (size_t) tmp;
```

```
/* * Now copy the memory. / **memcpy(dst, src, length)*;
```

```
return 0; }
```

Author: Chris Johns 2022-11-10T00:44:36.000Z

Original author: chenjin_zhong

- **Milestone** changed from %”5.1” to %”6.1”
- **Version** changed from ~”5” to ~”6”

Author: Chris Johns 2022-11-29T23:49:11.000Z

Original author: chenjin_zhong

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2022-12-23T18:56:38.000Z

Original author: chenjin_zhong

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”4523c71340569c87dad6936bb3dad241ac8aa724/rtems”
4523c713/rtems]:

```
1 rtems_shell_main_mmove problem
2
3 --00000000000006acec205efd38cd6
4 Content-Type: text/plain; charset="UTF-8"
5
6 Closes #4556
```

Author: Gedare Bloom 2025-06-10T15:03:16.024Z

changed the description

4.2.1.78 4554 - Adapt improved mailer.py for RSB 5 branch

Id	4554
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-12-01T16:36:03.000Z
Updated	2025-09-19T01:11:05.549Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4554
Merges	0

Original author: rlong

Adapted the patch applied to master to fix mail support for the RSB so that it works with the 5 branch.

Author: Trac Migrate 2021-12-16T21:36:06.000Z

Original author: rlong

- **Owner** set to Alex White <alex.white@oarcorp.com>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"6225eadda1deda470fdc7b626c8af35bd4fb9a92/rtems-source-builder" 6225ead/rtems-source-builder]:

```
1 sb: Merge mailer changes from rtems-tools
2
3 This adds the improved mailer.py script from rtems-tools.
4
5 Closes #4554
```

Author: Chris Johns 2025-09-19T01:11:05.628Z

changed the description

4.2.1.79 4553 - Adapt improved mailer.py for rtems-tools 5 branch

Id	4553
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-12-01T16:23:33.000Z
Updated	2025-09-19T01:11:05.414Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4553
Merges	0

Original author: rlong

Adapted the patch applied to master to fix mail support for rtems-tools so that it works with the 5 branch.

Author: Trac Migrate 2021-12-01T16:27:41.000Z

Original author: rlong

- **Summary** changed from *Adapt improved mailer.py to Adapt improved mailer.py for rtems-tools*

Author: Trac Migrate 2021-12-01T16:36:11.000Z

Original author: rlong

- **Summary** changed from *Adapt improved mailer.py for rtems-tools to Adapt improved mailer.py for rtems-tools 5 branch*

Author: Trac Migrate 2021-12-16T21:26:51.000Z

Original author: rlong

In [changeset:"56779ecee295aa54f397438b98d832de04e96862/rtems-tools" 56779ec/rtems-tools]:

```
1 rtemstoolkit/mailer.py: Return full smtp-host arg value
2
3 This fixes mail.smtp_host() so that it returns the full argument value
4 rather than just the second character.
5
6 Updates #4553
```

Author: Trac Migrate 2021-12-16T21:26:53.000Z

Original author: rlong

In [changeset:"6759c3ce837a43cd2047e5c162891d780fb9246d/rtems-tools" 6759c3c/rtems-tools]:

```
1 rtemstoolkit: Filter mail options from log output
2
3 This filters mail-related options out before logging the command line
4 options. This is needed to prevent leaking potentially sensitive
5 information via logs and emails.
6
7 Updates #4553
```

Author: Trac Migrate 2021-12-16T21:26:56.000Z

Original author: rlong

In [changeset:"a7efe4a2691404922bac240c2de35b936215c47b/rtems-tools" a7efe4a/rtems-tools]:

```
1 rtemstoolkit/mailer.py: Add SMTP login options
2
3 This adds more options so that the user can authenticate with the SMTP
```

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```

4 server.
5
6 Updates #4553

```

Author: Trac Migrate 2021-12-16T21:26:59.000Z

Original author: rlong

In [changeset:"f7f1a3e69d21519f71a170e28e4518b4cac9c8f1/rtems-tools" f7f1a3e/rtems-tools]:

```

1 rtemstoolkit/mailer.py: Add --use-gitconfig option
2
3 This adds the option to pull mail-related configuration values from the
4 user's git configuration.
5
6 Updates #4553

```

Author: Trac Migrate 2021-12-16T21:27:01.000Z

Original author: rlong

- **Owner** set to Alex White <alex.white@oarcorp.com>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"bdd785a39769d0b59a651171e98532d6783a283a/rtems-tools" bdd785a/rtems-tools]:

```

1 rtems-bsp-builder: Fix mail support
2
3 This fixes a problem with mailer options support that occurred because
4 check.py uses argparse.ArgumentParser instead of tester.rt.options.
5
6 Closes #4553

```

Author: Chris Johns 2025-09-19T01:11:05.463Z

changed the description

4.2.1.80 4552 - untar: problems with existing directories

Id	4552
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-11-29T08:28:43.000Z
Updated	2025-09-19T01:11:05.316Z
Milestone	5.1
Labels	library, old-indefinite, priority::normal, resolution::fixed, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4552
Merges	1

Original author: Christian Mauderer

Our current implementation of untar in cpukit/libmisc/untar/untar.c has problems if a directory in the archive already exists. Note that this is no problem, if the archive contains only a file.

The problem exists on 5 and master.

Example: If I have a targz file which contains a file and directories l1/l2/x.txt and call `Untar_FromGzChunk_Print` twice, the first attempt will print

```
1 untar: dir: l1
2 untar: dir: l1/l2
3 untar: file: l1/l2/x.txt (s:12,m:0644)
```

After that the directories l1 already exists. So if I re-try to extract the archive, I'll get the following:

```
1 untar: dir: l1
2 untar: mkdir: l1: (17) File exists
```

My expectation would have been that the files are just integrated into an existing directory structure. If a file exists, it should be overwritten.

We have multiple references for expected behavior. GNU or BSD tar or POSIX pax. In my experience tar is the better known tool so my suggestion would be to use the default behavior of tar as a reference.

GNU or BSD *tar*

I tested the default behavior of GNU tar and BSD tar. It seems to be the same for both:

- If a directory structure exists, the files from the archive will be integrated. Existing files are overwritten.
- If a file exists and the archive contains a directory with the same name, the file is removed and a directory is created. In the above example: if l1/l2 is a file it will be overwritten with a new directory.
- If a directory exists and the archive contains a file with the same name, the directory will be replaced if it is empty. If it contains files, the result is an error.

- An archive also can contain only a file without the parent directories. If in that case one of the parent directories exists as a file extracting the archive results in an error. In the example: if 11/12 is a file and the archive doesn't contain the directories but only the file 11/12/x.txt that would be an error.

In case of an error, it is possible that the archive has been partially extracted.

Note: GNU tar has options to change the behavior (like `-recursive-unlink`). I'm sure there are similar options in BSD tar. From my point of view we should adapt to the default behavior, so I ignored these options.

The POSIX *pax* utility

<https://pubs.opengroup.org/onlinepubs/9699919799/utilities/pax.html>

Default behavior is described as follows:

If an attempt is made to extract a directory when the directory already exists, this shall not be considered an error. If an attempt is made to extract a FIFO when the FIFO already exists, this shall not be considered an error.

From some quick tests pax has a similar behavior like tar. The only difference I noted is that empty directories are not overwritten with files from the archive.

Author: Trac Migrate 2021-11-29T08:42:53.000Z

Original author: Christian Mauderer

PS: A maybe related (closed) ticket is [#3823](#). The solution to that ticket changed the behavior.

Author: Trac Migrate 2021-12-09T07:21:20.000Z

Original author: Christian Mauderer

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In `[changeset:"ff3f3490df7120c9ec039b5acd1935265c3f9262/rtems"ff3f3490/rtems]`:

```

1 untar: Make behavior similar to GNU or BSD tar
2
3 RTEMS untar implementation had problems with overwriting or integrating
4 archives into existing directory structures. This patch adapts the
5 behavior to mimic that of a GNU tar or BSD tar and extends the tar01
6 test to check for the behavior. That is:
7
8 * If a directory structure exists, the files from the archive will be
9 integrated. Existing files are overwritten.
10
11 * If a file exists and the archive contains a directory with the same

```

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```

12 name, the file is removed and a directory is created. In the above
13 example: if l1/l2 is a file it will be overwritten with a new
14 directory.
15
16 * If a directory exists and the archive contains a file with the same
17 name, the directory will be replaced if it is empty. If it contains
18 files, the result is an error.
19
20 * An archive also can contain only a file without the parent
21 directories. If in that case one of the parent directories exists as a
22 file extracting the archive results in an error. In the example: if
23 l1/l2 is a file and the archive doesn't contain the directories but
24 only the file l1/l2/x.txt that would be an error.
25
26 * In case of an error, it is possible that the archive has been
27 partially extracted.
28
29 Closes #4552

```

Author: Amar Takhar 2025-09-05T02:57:51.246Z

changed the description

Author: Amar Takhar 2025-09-05T02:57:51.579Z

mentioned in issue [#4568](#)

4.2.1.81 4551 - Workaround for GRLIB-TN-0011 required for sparc/leon3 BSPs in SMP configuration

Id	4551
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-11-23T15:26:55.000Z
Updated	2025-09-19T01:11:05.216Z
Milestone	5.1
Labels	arch:sparc, priority::normal, qualification, resolution::fixed, smp, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4551
Merges	0

Original author: sebastian.huber

The check script tn-0011.tcl reported the following affected code block in cpu_asm.S:

```

1 sparc-rtems6-objdump -d build/sparc/gr712rc/testsuites/validation/ts-validation-0.
  ↪exe | tn-0011.tcl
2 INFO: Scanning utility for
3 INFO:   GRLIB-TN-0011 - LEON3/FT AHB Lock Release during Atomic Operation
4 INFO: Script revision: 3 (20180412)
5 INFO:
6 INFO: Scanning objdump -d output on standard input...
7 0x400ad5f8 : seqa
8 INFO: 400ad5f8:      c2 7a 60 58      swap [ %o1 + 0x58 ], %g1
9 INFO: 400ad5fc:      80 a0 60 00      cmp %g1, 0
10 INFO: 400ad600:      12 80 00 14      bne 400ad650 <done_flushing+0x7c>
11 INFO:
12 INFO: Error locations found: 1

```

Author: Trac Migrate 2021-11-26T09:38:20.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"bdcc81434353ee4f1d01aafe1a85627889fe53bc/rtems" bdcc814/rtems]:

```

1 sparc: Add workaround for GRLIB-TN-0011
2
3 Affected components are the GR712RC, UT699, UT699E, UT700, and
4 LEON3FT-RTAX. Strictly, the workaround is only necessary if the MMU is
5 enabled. Use __FIX_LEON3FT_B2BST to enable the workaround. This is not
6 100% appropriate, but the best thing we can use to enable the
7 workaround.
8
9 Close #4551.

```

Author: Amar Takhar 2024-04-25T20:49:21.370Z

changed the description

4.2.1.82 4549 - Timecounter: Add NTP support (cloned)

Id	4549
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-11-15T11:37:22.000Z
Updated	2025-09-19T01:11:04.948Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4549
Merges	0

Original author: GabrielMoyano

Cloned from [#2348](#):

The FreeBSD timecounter implementation supports the NTP. This support is currently disabled in RTEMS.

Author: Trac Migrate 2021-11-30T14:41:11.000Z

Original author: GabrielMoyano

In [changeset:"5382f617ff3141c429b52b66e0a9ae5663b21750/rtems" 5382f61/rtems]:

```

1 score: Add _Timecounter_Set_NTP_update_second()
2
3 Allow the installation of an NTP update second handler which may be_
  ↪used by an
4 NTP service.
5
6 Update #4549.
```

Author: Joel Sherrill 2021-12-17T17:02:39.000Z

Original author: GabrielMoyano

Is all the work done on this? Can it be closed? What's left?

Author: Trac Migrate 2022-01-10T07:47:56.000Z

Original author: GabrielMoyano

Replying to [Joel Sherrill](#):

Is all the work done on this? Can it be closed? What's left? Yes, it can be closed. Sorry for the delay

Author: Chris Johns 2022-11-09T22:34:48.000Z

Original author: GabrielMoyano

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Closing as instructed.

Author: Chris Johns 2025-09-19T01:11:05.020Z

changed the description

4.2.1.83 4546 - A thread restart does not update the priority of related threads

Id	4546
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-11-10T17:00:55.000Z
Updated	2025-09-19T01:11:04.856Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4546
Merges	0

Original author: sebastian.huber

Consider the following scenario. Let a high priority task H wait on a priority inheritance mutex M owned by a low priority task L. Restart task H. This should remove the priority inherited by H from L. This is currently not the case.

Author: Trac Migrate 2021-11-23T13:36:37.000Z

Original author: sebastian.huber

In [changeset:"cd791039b90211669f6688c782a1114d54932747/rtems" cd791039/rtems]:

```
1 score: Remove thread timer earlier
2
3 The earlier we remove the thread timer the less likely is a superfluous
4 thread timeout processing.
```

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5
6 Update #4546.

Author: Trac Migrate 2021-11-23T13:36:40.000Z

Original author: sebastian.huber

In [changeset:"50aef135a405a0dc26c39d7cfe7066f85b3dfbb5/rtems" 50aef135/rtems]:

1 score: Add _Thread_MP_Extract_proxy()
2
3 Remove _Thread_queue_Extract_with_proxy() and move the proxy extraction
4 to _Thread_MP_Extract_proxy(). Move similar code blocks of the previous
5 caller of _Thread_queue_Extract_with_proxy() to helper functions.
6
7 Update #4546.

Author: Trac Migrate 2021-11-23T13:36:44.000Z

Original author: sebastian.huber

In [changeset:"e429e9742a2ca72820f8f3a8958ed138aa562bd9/rtems" e429e97/rtems]:

1 score: Simplify thread wait state handling
2
3 Remove the THREAD_WAIT_STATE_READY_AGAIN and simply use the initial_
↳value to
4 indicate that a thread does not wait on something. Rename
5 THREAD_WAIT_FLAGS_INITIAL to THREAD_WAIT_STATE_READY. This change is_
↳necessary
6 so that _Thread_Continue() can be called for threads which never waited_
↳on
7 something (for example dormant threads).
8
9 Update #4546.

Author: Trac Migrate 2021-11-23T13:36:47.000Z

Original author: sebastian.huber

In [changeset:"2e56aabdb1035bd102713382dd03e9b0955eb1f2/rtems" 2e56aab/rtems]:

1 score: Move _Thread_queue_Extract()
2

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```

3 Move _Thread_queue_Extract() since this function is not used by the core
4 services (threads, semaphores, mutexes, message queues).
5
6 Update #4546.

```

Author: Trac Migrate 2021-11-23T13:36:51.000Z

Original author: sebastian.huber

In [changeset:"3b6e263ab6b978c3cd3dd130313ec5a837c59419/rtems" 3b6e263a/rtems]:

```

1 score: _Thread_queue_Surrender_no_priority()
2
3 Simplify _Thread_queue_Surrender_no_priority() and use
4 _Thread_queue_Resume().
5
6 Update #4546.

```

Author: Trac Migrate 2021-11-23T13:36:54.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"546846472a5dad7b3038b7c56da695f6dbbd1a6/rtems" 5468464/rtems]:

```

1 score: Properly continue the thread during restart
2
3 The _Thread_queue_Extract() does not deal with potential priority
4 updates and the SMP locking protocol handling. Use
5 _Thread_queue_Continue(). For the POSIX signals processing this is
6 currently probably unnecessary, however, the use case is similar to the
7 restart so use the same approach.
8
9 Close #4546.

```

Author: Amar Takhar 2024-04-25T20:49:18.857Z

changed the description

4.2.1.84 4545 - The SMP EDF scheduler can only support more restricted affinity sets of a thread

Id	4545
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-11-10T08:27:34.000Z
Updated	2025-09-19T01:11:04.761Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, smp, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4545
Merges	0

Original author: sebastian.huber

The SMP EDF scheduler supports a one-to-one and one-to-all thread to processor affinity. Currently it accepts affinity sets which are a proper subset of the online processors containing at least two processors owned by the scheduler. In this case it sets a one-to-one thread to processor affinity. This leads to undefined behaviour if a processor is removed since the higher level check in `rtems_scheduler_remove_processor()` does not account for this implementation detail.

Author: Trac Migrate 2021-11-10T08:29:06.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 - The SMP EDF scheduler supports a one-to-one and one-to-all thread to_
   ↳ processor affinity. Currently it accepts affinity sets which are a_
   ↳ proper subset of the online processor containing at least two_
   ↳ processors owned by the scheduler. In this case it sets a one-to-one_
   ↳ thread to processor affinity. This leads to undefined behaviour if a_
   ↳ processor is removed since the higher level check in rtems_scheduler_
   ↳ remove_processor() does not account for this implementation detail.
2 + The SMP EDF scheduler supports a one-to-one and one-to-all thread to_
   ↳ processor affinity. Currently it accepts affinity sets which are a_
   ↳ proper subset of the online processors containing at least two_
   ↳ processors owned by the scheduler. In this case it sets a one-to-one_
   ↳ thread to processor affinity. This leads to undefined behaviour if a_
   ↳ processor is removed since the higher level check in rtems_scheduler_
   ↳ remove_processor() does not account for this implementation detail.
3 ?
   ↳
   ↳
   ↳
   +

```

- **Summary** changed from *The SMP EDF scheduler has to better check the affinity*

set of a thread to The SMP EDF scheduler can only support more restricted affinity sets of a thread

Author: Trac Migrate 2021-11-23T13:36:33.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"834a86fe212719735fd7ede8c60f78fedf70a758/rtems" 834a86fe/rtems]:

```

1 score: Restrict affinity for EDF SMP scheduler
2
3 The SMP EDF scheduler supports a one-to-one and one-to-all thread to
4 processor affinity. It accepted affinity sets which are a proper
5 subset of the online processor containing at least two processors owned_
6 ↪by
7 the scheduler. In this case it used a one-to-one thread to processor
8 affinity. This leads to undefined behaviour if a processor is removed
9 since the higher level check in rtems_scheduler_remove_processor() does
10 not account for this implementation detail.
11
12 Restrict the affinity set accepted by the SMP EDF scheduler to
13
14 1. all online processors, or
15
16 2. exactly one processor owned by the scheduler.
17
18 Close #4545.
```

Author: Amar Takhar 2024-04-25T20:49:18.022Z

changed the description

4.2.1.85 4544 - The last processor must not be removed if it is owned by a helping scheduler

Id	4544
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-11-08T09:44:53.000Z
Updated	2025-09-19T01:11:04.669Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, smp, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4544
Merges	0

Original author: sebastian.huber

The following error condition is currently not checked by `rtems_scheduler_remove_processor()`: While an attempt is made to remove a processor from a scheduler, while the processor is the only processor owned by the scheduler, if a thread exists which uses the scheduler as a helping scheduler, then shall not be removed.

The reason is that ask for help requests and withdraw node requests are processed asynchronously in any order. An ask for help request carried out on a scheduler without a processor is undefined behaviour.

Author: Trac Migrate 2021-11-10T08:21:56.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 - The bug is related to this requirement: While the processor allocated_
   ↳ to the thread is owned by a helping scheduler, while the processor is_
   ↳ the only processor of the scheduler, when the processor is removed,_
   ↳ the thread shall be blocked with respect to the scheduler. A test_
   ↳ case for this requirement showed that a scheduler node change is_
   ↳ incorrect in _Scheduler_SMP_Remove_processor().
2 + The following error condition is currently not checked by rtems_
   ↳ scheduler_remove_processor(): While an attempt is made to remove a_
   ↳ processor from a scheduler, while the processor is the only processor_
   ↳ owned by the scheduler, if a thread exists which uses the scheduler_
   ↳ as a helping scheduler, then shall not be removed.
3 +
4 + The reason is that ask for help requests and withdraw node requests_
   ↳ are processed asynchronously in any order. An ask for help request_
   ↳ carried out on a scheduler without a processor is undefined behaviour.
```

- **Summary** changed from *Incorrect state change in processor removal of SMP scheduler* to *The last processor must not be removed if it is owned by a helping*

scheduler

Author: Trac Migrate 2021-11-23T13:36:30.000Z

Original author: sebastian.huber

In [changeset:"c69a70a597ec5df75a51bfa39c14198a5c5fb22e/rtems" c69a70a/rtems]:

```

1 rtems: Fix rtems_scheduler_remove_processor()
2
3 Return an error status for the following error condition in
4 rtems_scheduler_remove_processor():
5
6 While an attempt is made to remove a processor from a scheduler, while
7 the processor is the only processor owned by the scheduler, if a thread
8 exists which uses the scheduler as a helping scheduler, then the
9 processor shall not be removed.
10
11 The reason is that ask for help requests and withdraw node requests are
12 processed asynchronously in any order. An ask for help request carried
13 out on a scheduler without a processor is undefined behaviour.
14
15 Update error status description.
16
17 Update #4544.
```

Author: Trac Migrate 2021-11-23T13:49:07.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"513b90d7a4e1db1c806a32326fd2f20dadb2c860/rtems-docs" 513b90d/rtems-docs]:

```

1 c-user: rtems_scheduler_remove_processor()
2
3 Update error status description.
4
5 Close #4544.
```

Author: Amar Takhar 2024-04-25T20:49:17.204Z

changed the description

4.2.1.86 4541 - rtems_jffs2_rmnod function problem

Id	4541
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-11-01T14:54:19.000Z
Updated	2025-09-19T01:11:04.525Z
Milestone	5.1
Labels	filesystem::jffs2, filesystem::jffs2, priority::normal, resolution::worksforme, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4541
Merges	0

Original author: chenjin_zhong

Hi, the `dir_i->i_mode` must be `S_IFDIR` in this situation. therefore, I want to know when the `dir_i->i_mode` is `S_IFREG`? this function can it be optimized? the code is listed below.

```
static int rtems_jffs2_rmnod( const rtems_filesystem_location_info_t parentloc, const rtems_filesystem_location_info_t *loc) {
  struct _inode *dir_i = rtems_jffs2_get_inode_by_location(parentloc); struct _inode *entry_i = rtems_jffs2_get_inode_by_location(loc); char *name; size_t namelen; int eno = rtems_jffs2_cache_fd_name(entry_i, &name, &namelen); if (eno == 0) { switch (dir_i->i_mode & S_IFMT) { **case S_IFDIR: eno = -jffs2_rmdir(dir_i, entry_i, name, namelen); break; case S_IFREG: eno = -jffs2_unlink(dir_i, entry_i, name, namelen); break; default: eno = EINVAL; break; } }
}
```

```
return rtems_jffs2_eno_to_rv_and_errno(eno); }
```

Author: Trac Migrate 2021-11-12T13:49:58.000Z

Original author: chenjin_zhong

- **Resolution** set to ~"worksforme"
- **Status** changed from *new* to *closed*

The `rmnod_h` file system operation is used by `unlink()` and `rmdir()`.

Author: Chris Johns 2025-09-19T01:11:04.583Z

changed the description

4.2.1.87 4539 - rtems_filesystem_table compile

Id	4539
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-10-29T06:27:19.000Z
Updated	2025-09-19T01:11:04.386Z
Milestone	5.1
Labels	priority::normal, resolution::invalid, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4539
Merges	0

Original author: chenjin_zhong

Hi, when the macro `** CONFIGURE_APPLICATION_DISABLE_FILESYSTEM**` is defined, `rtems_filesystem_table` is undefined during linking process.

Author: Joel Sherrill 2021-10-29T13:34:40.000Z

Original author: chenjin_zhong

Do you have a simple test case to let us see what is happening for you? There are 6 tests in the RTEMS Test Suite which use `CONFIGURE_APPLICATION_DISABLE_FILESYSTEM` so I suspect you have used something which implicitly requires a file system. Perhaps your application needs a minimal file system for device nodes.

Author: Trac Migrate 2021-11-02T06:38:37.000Z

Original author: chenjin_zhong

I just compile `sp01` with `CONFIGURE_APPLICATION_DISABLE_FILESYSTEM`. I rechecked the source code in RTEMS5.1. I found that `rtems_filesystem_table` is only be defined in `confdefs/libio.h`. the global variable `rtems_filesystem_table` is used by `rtems_filesystem_iterate` in `libcsupport/src/mountmgr.c`. Therefore, the undefined error may be caused by `CONFIGURE_APPLICATION_DISABLE_FILESYSTEM`.

Author: Chris Johns 2022-11-10T00:42:49.000Z

Original author: chenjin_zhong

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

If you have referenced a function that pulls in the file system this will happen.

Author: Chris Johns 2025-09-19T01:11:04.439Z

changed the description

4.2.1.88 4538 - mutex is not initilaized in jffs2_read_inode

Id	4538
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-10-27T15:13:14.000Z
Updated	2025-09-19T01:11:04.217Z
Milestone	5.1
Labels	filesystem::jffs2, filesystem::jffs2, priority::normal, resolution::invalid, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4538
Merges	0

Original author: chenjin_zhong

Hi, I have found when call jffs2_read_inode to read inode. the f->sem is not initiliazed and locked, but it is be unlocked. The peice of source code is as follows: static int jffs2_read_inode (struct_inode *inode) { struct jffs2_inode_info *f; struct jffs2_sb_info *c; struct jffs2_raw_inode latest_node; int ret;

```
D1(printk(KERN_DEBUG "jffs2_read_inode(): inode->i_ino == %lun", inode->i_ino));
```

```
f = JFFS2_INODE_INFO(inode); c = JFFS2_SB_INFO(inode->i_sb);
```

```
jffs2_init_inode_info(f); ret = jffs2_do_read_inode(c, f, inode->i_ino, &latest_node);
```

```
if (ret) { mutex_unlock(&f->sem); return ret; }
```

```
inode->i_mode      =      jemode_to_cpu(latest_node.mode);      inode->i_uid      =
je16_to_cpu(latest_node.uid); inode->i_gid = je16_to_cpu(latest_node.gid); inode->i_size
= je32_to_cpu(latest_node.isize); inode->i_atime = je32_to_cpu(latest_node.atime);
inode->i_mtime      =      je32_to_cpu(latest_node.mtime);      inode->i_ctime      =
je32_to_cpu(latest_node.ctime);
```

```
inode->i_nlink      =      f->inocache->pino_nlink;      **mutex_unlock(&f->sem);      **
D1(printk(KERN_DEBUG "jffs2_read_inode() returningn")); return 0; }
```

Author: Trac Migrate 2021-10-28T05:20:50.000Z

Original author: chenjin_zhong

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

Thanks for your interest in the RTEMS port of JFFS2. If you have questions, then you could also ask them on the devel@rtems.org mailing list. The RTEMS port of

JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance:

```

1 static void rtems_jffs2_do_lock(struct super_block *sb)
2 {
3   rtems_recursive_mutex_lock(&sb->s_mutex);
4 }
5
6 static void rtems_jffs2_do_unlock(struct super_block *sb)
7 {
8   rtems_recursive_mutex_unlock(&sb->s_mutex);
9 }

```

Author: Trac Migrate 2021-10-28T14:40:25.000Z

Original author: chenjin_zhong

- **Resolution** ~"invalid" deleted
- **Status** changed from *closed* to *reopened*

Replying to [Sebastian Huber](#):

Thanks for your interest in the RTEMS port of JFFS2. If you have questions, then you could also ask them on the devel@rtems.org mailing list. The RTEMS port of JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance:

```

1 static void rtems_jffs2_do_lock(struct super_block *sb)
2 {
3   rtems_recursive_mutex_lock(&sb->s_mutex);
4 }
5 static void rtems_jffs2_do_unlock(struct super_block *sb)
6 {
7   rtems_recursive_mutex_unlock(&sb->s_mutex);
8 }
9 }}}
10 I have compared it with Linux JFFS2. The peice of source code_
    ↳ in Linux is as follows,As shown in black-body section, the_
    ↳ f->sem is not be initialized and locked in RTEMS.
11
12 {{{
13 struct jffs2_sb_info *c;
14 struct jffs2_raw_inode latest_node;
15 union jffs2_device_node jdev;
16 struct inode *inode;
17 dev_t rdev = 0;
18 int ret;
19 jffs2_dbg(1, "%s(): ino == %lu\\n", func, ino);
20 inode = iget_locked(sb, ino);
21 if (!inode)
22   return ERR_PTR(-ENOMEM);

```

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(continued from previous page)

```

23 if (!(inode->i_state & I_NEW))
24 return inode;
25 f = JFFS2_INODE_INFO(inode);
26 c = JFFS2_SB_INFO(inode->i_sb);
27 jffs2_init_inode_info(f);
28 mutex_lock(&f->sem);
29 ret = jffs2_do_read_inode(c, f, inode->i_ino, &latest_node);
30 if (ret)
31 goto error;
32 inode->i_mode = jemode_to_cpu(latest_node.mode);
33 i_uid_write(inode, je16_to_cpu(latest_node.uid));
34 i_gid_write(inode, je16_to_cpu(latest_node.gid));
35 inode->i_size = je32_to_cpu(latest_node.isize);
36 inode->i_atime = ITIME(je32_to_cpu(latest_node.atime));
37 inode->i_mtime = ITIME(je32_to_cpu(latest_node.mtime));
38 inode->i_ctime = ITIME(je32_to_cpu(latest_node.ctime));
39 set_nlink(inode, f->inocache->pino_nlink);
40 inode->i_blocks = (inode->i_size + 511) >> 9;

```

Author: Trac Migrate 2021-10-28T14:43:37.000Z

Original author: chenjin_zhong

- **Resolution** set to ~"invalid"
- **Status** changed from *reopened* to *closed*

Yes, the f->sem is an empty structure, it is not initialized, it is not used, locked or whatever in RTEMS. This is intentional and not a bug. I repeat: **The RTEMS port of JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance.**

Author: Trac Migrate 2021-10-28T15:05:51.000Z

Original author: chenjin_zhong

Replying to [Sebastian Huber](#):

Yes, the f->sem is an empty structure, it is not initialized, it is not used, locked or whatever in RTEMS. This is intentional and not a bug. I repeat: **The RTEMS port of JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance.**

Thank you! I got it. but we Suppose that a GC thread or other thread/task and main task calls jffs2_do_readinode simultaneous. a global lock for each JFFS2 instance can't work.

Author: Trac Migrate 2021-10-28T15:07:51.000Z

Original author: chenjin_zhong

- **Resolution** ~"invalid" deleted
- **Status** changed from *closed* to *reopened*

Author: Trac Migrate 2021-10-28T18:26:10.000Z

Original author: chenjin_zhong

- **Resolution** set to ~"invalid"
- **Status** changed from *reopened* to *closed*

Replying to [chenjin_zhong](#):

Replying to [Sebastian Huber](#):

Yes, the `f->sem` is an empty structure, it is not initialized, it is not used, locked or whatever in RTEMS. This is intentional and not a bug. I repeat: **The RTEMS port of JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance.**

Thank you! I got it. but we Suppose that a GC thread or other thread/task and main task calls `jffs2_do_readinode` simultaneous. a global lock for each JFFS2 instance can't work.

It is not a high performance approach, but it works. See `testsuites/fstests/fsjffs2gc01/init.c`.

Author: Chris Johns 2025-09-19T01:11:04.286Z

changed the description

4.2.1.89 4537 - mutex is not initilaized in `jffs2_new_inode`

Id	4537
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-10-27T14:59:07.000Z
Updated	2025-09-19T01:11:04.039Z
Milestone	5.1
Labels	filesystem::jaffs2, filesystem::jffs2, priority::normal, resolution::invalid, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4537
Merges	0

Original author: chenjin_zhong

HI, I have found when call `jffs2_new_inode` to create inode. the `f->sem` is not initilaized and lock, but it is be unlocked. The peice of source code is as follows: `struct _inode *jffs2_new_inode (struct _inode *dir_i, int mode, struct jffs2_raw_inode *ri) { struct _inode`

```
*inode; struct super_block *sb = dir_i->i_sb; struct jffs2_sb_info *c; struct jffs2_inode_info *f;
int ret;
```

```
D1(printk(KERN_DEBUG "jffs2_new_inode(): dir_i %ld, mode 0x%xn", dir_i->i_ino, mode));
c = JFFS2_SB_INFO(sb);
```

```
inode = new_inode(sb);
```

```
if (!inode) return ERR_PTR(-ENOMEM);
```

```
f = JFFS2_INODE_INFO(inode); jffs2_init_inode_info(f);
```

```
memset(ri, 0, sizeof(ri)); / Set OS-specific defaults for new inodes / ri->uid =
cpu_to_je16(geteuid()); ri->gid = cpu_to_je16(getegid()); ri->mode = cpu_to_jemode(mode);
ret = jffs2_do_new_inode (c, f, mode, ri); if (ret) { // forceful evict: f->sem is locked al-
ready, and the // inode is bad. if (inode->i_cache_prev) inode->i_cache_prev->i_cache_next
= inode->i_cache_next; if (inode->i_cache_next) inode->i_cache_next->i_cache_prev = inode-
>i_cache_prev; **mutex_unlock(&(f->sem))*; jffs2_clear_inode(inode); memset(inode, 0x6a,
sizeof(*inode)); free(inode); return ERR_PTR(ret); } inode->i_nlink = 1; inode->i_ino
= je32_to_cpu(ri->ino); inode->i_mode = jemode_to_cpu(ri->mode); inode->i_gid =
je16_to_cpu(ri->gid); inode->i_uid = je16_to_cpu(ri->uid); inode->i_atime = inode-
>i_ctime = inode->i_mtime = get_seconds(); ri->atime = ri->mtime = ri->ctime =
cpu_to_je32(inode->i_mtime); inode->i_size = 0; return inode; }
```

Author: Joel Sherrill 2021-10-27T18:38:19.000Z

Original author: chenjin_zhong

The code in this file is related to similar code for ports of JFFS2. Can you compare this to the current code for Linux and other ports to see what they do? That might significantly ease the analysis for all these issues.

Author: Trac Migrate 2021-10-28T05:20:02.000Z

Original author: chenjin_zhong

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

Thanks for your interest in the RTEMS port of JFFS2. If you have questions, then you could also ask them on the devel@rtems.org mailing list. The RTEMS port of JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance:

```
1 static void rtems_jffs2_do_lock(struct super_block *sb)
2 {
3   rtems_recursive_mutex_lock(&sb->s_mutex);
4 }
5
6 static void rtems_jffs2_do_unlock(struct super_block *sb)
7 {
8   rtems_recursive_mutex_unlock(&sb->s_mutex);
9 }
```

Author: Trac Migrate 2021-10-28T14:34:47.000Z

Original author: chenjin_zhong

Replying to [Joel Sherrill](#):

The code in this file is related to similar code for ports of JFFS2. Can you compare this to the current code for Linux and other ports to see what they do? That might significantly ease the analysis for all these issues.

I have compared it with Linux JFFS2. The peice of source code in Linux is as follows,As shown in black-body section, the f->sem is not be initialized and locked in RTEMS.

```
struct jffs2_sb_info *c; struct jffs2_raw_inode latest_node; union
jffs2_device_node jdev; struct inode *inode; dev_t rdev = 0; int ret;

jffs2_dbg(1, "%s(): ino == %lu\n", __func__, ino);

inode = iget_locked(sb, ino); if (!inode) return ERR_PTR(-ENOMEM);
if (!(inode->i_state & I_NEW)) return inode;

f = JFFS2_INODE_INFO(inode); c = JFFS2_SB_INFO(inode->i_sb);

jffs2_init_inode_info(f); mutex_lock(&f->sem);

ret = jffs2_do_read_inode(c, f, inode->i_ino, &latest_node); if (ret)
goto error;

inode->i_mode          =          jemode_to_cpu(latest_node.mode);
i_uid_write(inode,          je16_to_cpu(latest_node.uid));
i_gid_write(inode,          je16_to_cpu(latest_node.gid));      inode-
>i_size  =  je32_to_cpu(latest_node.isize);  inode->i_atime  =
ITIME(je32_to_cpu(latest_node.atime));      inode->i_mtime  =
ITIME(je32_to_cpu(latest_node.mtime));      inode->i_ctime   =
ITIME(je32_to_cpu(latest_node.ctime));

set_nlink(inode, f->inocache->pino_nlink);

inode->i_blocks = (inode->i_size + 511) >> 9;
```

Author: Trac Migrate 2021-10-28T14:42:27.000Z

Original author: chenjin_zhong

- **Resolution** ~"invalid" deleted
- **Status** changed from *closed* to *reopened*

Author: Trac Migrate 2021-10-28T14:45:13.000Z

Original author: chenjin_zhong

- **Resolution** set to ~"invalid"
- **Status** changed from *reopened* to *closed*

Yes, the `f->sem` is an empty structure, it is not initialized, it is not used, locked or whatever in RTEMS. This is intentional and not a bug. I repeat: **The RTEMS port of JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance.**

Author: Chris Johns 2025-09-19T01:11:04.117Z

changed the description

4.2.1.90 4536 - access JFFS2 `sb->s_root`

Id	4536
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-10-27T14:47:06.000Z
Updated	2025-09-19T01:11:03.881Z
Milestone	5.1
Labels	filesystem::jaffs2, filesystem::jffs2, priority::normal, resolution::invalid, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4536
Merges	0

Original author: chenjin_zhong

Hi, I have found when access global structure without mutex or spinlock about JFFS2 may cause indetermination. The peice of source code in RTEMS5.1 are listed as follows: `fs-rtems.c`: 1) `// Add to the icache for (cached_inode = sb->s_root; cached_inode != NULL; cached_inode = cached_inode->i_cache_next) { if (cached_inode->i_cache_next == NULL) { cached_inode->i_cache_next = inode; // Current last in cache points to newcomer inode->i_cache_prev = cached_inode; // Newcomer points back to last break; } }`

2) `// Check for this inode in the cache for (inode = sb->s_root; inode != NULL; inode = inode->i_cache_next) { if (inode->i_ino == ino) { inode->i_count++; break; } }`

when multi-tasks or threads access `sb->s_root` simultaneously, The behavior is unknown.

Author: Trac Migrate 2021-10-28T05:19:37.000Z

Original author: chenjin_zhong

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

Thanks for your interest in the RTEMS port of JFFS2. If you have questions, then you could also ask them on the devel@rtems.org mailing list. The RTEMS port of JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance:

```

1 static void rtems_jffs2_do_lock(struct super_block *sb)
2 {
3   rtems_recursive_mutex_lock(&sb->s_mutex);
4 }
5
6 static void rtems_jffs2_do_unlock(struct super_block *sb)
7 {
8   rtems_recursive_mutex_unlock(&sb->s_mutex);
9 }

```

Author: Trac Migrate 2021-10-28T14:53:51.000Z

Original author: chenjin_zhong

- **Resolution** ~"invalid" deleted
- **Status** changed from *closed* to *reopened*

Replying to [Sebastian Huber](#):

Thanks for your interest in the RTEMS port of JFFS2. If you have questions, then you could also ask them on the devel@rtems.org mailing list. The RTEMS port of JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance: {{{#!c static void rtems_jffs2_do_lock(struct super_block *sb) { rtems_recursive_mutex_lock(&sb->s_mutex); } static void rtems_jffs2_do_unlock(struct super_block *sb) { rtems_recursive_mutex_unlock(&sb->s_mutex); } }}}

Suppose that a GC thread or other thread/task calls `jffs2_garbage_collect_pass`, and then operates `sb->s_root` by `jffs2_iget`. Meanwhile, the main task accessing `sb->s_root`. a global lock for each JFFS2 instance can't work.

Author: Trac Migrate 2021-10-28T18:29:00.000Z

Original author: chenjin_zhong

- **Resolution** set to ~"invalid"
- **Status** changed from *reopened* to *closed*

Replying to [chenjin_zhong](#):

Replying to [Sebastian Huber](#):

Thanks for your interest in the RTEMS port of JFFS2. If you have questions, then you could also ask them on the devel@rtems.org mailing list. The RTEMS port of JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance: {{{#!c static void rtems_jffs2_do_lock(struct super_block *sb) { rtems_recursive_mutex_lock(&sb->s_mutex); } static

```
void rtems_jffs2_do_unlock(struct super_block *sb) {
    rtems_recursive_mutex_unlock(&sb->s_mutex); } }
```

Suppose that a GC thread or other thread/task calls `jffs2_garbage_collect_pass`, and then operates `sb->s_root` by `jffs2_iget`. Meanwhile, the main task accessing `sb->s_root`. A global lock for each JFFS2 instance can't work. It is not a high performance approach, but it works. See `testsuites/fstests/fsjffs2gc01/init.c`.

Author: Chris Johns 2025-09-19T01:11:03.945Z

changed the description

4.2.1.91 4535 - access JFFS2 sb->s_root question

Id	4535
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-10-27T14:34:15.000Z
Updated	2025-09-19T01:11:03.721Z
Milestone	5.1
Labels	filesystem::jaffs2, filesystem::jffs2, priority::normal, resolution::invalid, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4535
Merges	0

Original author: chenjin_zhong

Hi, I have found when access global structure without mutex or spinlock about JFFS2. The code in RTEMS5.1 are listed as follows: `fs-rtems.c`: 1) // Add to the icache for (cached_inode = sb->s_root; cached_inode != NULL; cached_inode = cached_inode->i_cache_next) { if (cached_inode->i_cache_next == NULL) { cached_inode->i_cache_next = inode; // Current last in cache points to newcomer inode->i_cache_prev = cached_inode; // Newcomer points back to last break; } }

2) // Check for this inode in the cache for (inode = sb->s_root; inode != NULL; inode = inode->i_cache_next) { if (inode->i_ino == ino) { inode->i_count++; break; } }

when multi-tasks or threads access `sb->s_root` simultaneously, The behavior is unknown.

Author: Trac Migrate 2021-10-28T05:19:18.000Z

Original author: chenjin_zhong

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

Thanks for your interest in the RTEMS port of JFFS2. If you have questions, then you could also ask them on the devel@rtems.org mailing list. The RTEMS port of

JFFS2 does not use a file system internal locking. There is a global lock for each JFFS2 instance:

```

1 static void rtems_jffs2_do_lock(struct super_block *sb)
2 {
3   rtems_recursive_mutex_lock(&sb->s_mutex);
4 }
5
6 static void rtems_jffs2_do_unlock(struct super_block *sb)
7 {
8   rtems_recursive_mutex_unlock(&sb->s_mutex);
9 }

```

Author: Chris Johns 2025-09-19T01:11:03.790Z

changed the description

4.2.1.92 4532 - Priority inversion issues with MrsP locking protocol implementation

Id	4532
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-10-20T05:37:11.000Z
Updated	2025-09-19T01:11:03.525Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, smp, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4532
Merges	0

Original author: sebastian.huber

While a thread is scheduled on a helping scheduler, while it does not own a MrsP semaphore, if it obtains a MrsP semaphore, then no scheduler node using an idle thread and the ceiling priority of the semaphore is unblocked for the home scheduler. This could lead to priority inversion issues and is not in line with the MrsP protocol.

Author: Trac Migrate 2021-11-23T13:35:53.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"3d6ebde1acab61e7c8fce1a1ed51517f7c2bf7c6/rtems" 3d6ebde1/rtems]:

```

1 score: Add SMP scheduler make/clean sticky
2
3 This patch fixes the following broken behaviour:
4
5 While a thread is scheduled on a helping scheduler, while it does not
6 own a MrsP semaphore, if it obtains a MrsP semaphore, then no
7 scheduler node using an idle thread and the ceiling priority of the
8 semaphore is unblocked for the home scheduler.
9
10 This could lead to priority inversion issues and is not in line
11 with the MrsP protocol.
12
13 Introduce two new scheduler operations which are only enabled if
14 RTEMS_SMP is defined. The operations are used to make the scheduler
15 node of the home scheduler sticky and to clean the sticky property.
16 This helps to keep the sticky handing out of the frequently used
17 priority update operation.
18
19 Close #4532.

```

Author: Amar Takhar 2024-04-25T20:49:15.595Z

changed the description

4.2.1.93 4531 - Data corruption in SMP schedulers

Id	4531
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-10-20T05:32:12.000Z
Updated	2025-09-19T01:11:03.421Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, smp, tick- ettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4531
Merges	0

Original author: sebastian.huber

Certain operations involving sticky thread queues, thread to processor affinity changes, priority updates, or thread pinning lead to data corruption in SMP schedulers, in particular the default SMP scheduler (SMP EDF).

Author: Trac Migrate 2021-11-23T13:35:06.000Z

Original author: sebastian.huber

In [changeset:"577262a73757a1d1561935f4efebfd39e333391a/rtems" 577262a7/rtems]:

```

1 score: Add red-black tree append/prepend
2
3 These functions are a faster alternative to _RBTREE_Insert_inline() if
4 it is known that the new node is the maximum/minimum node.
5
6 Update #4531.
```

Author: Trac Migrate 2021-11-23T13:35:10.000Z

Original author: sebastian.huber

In [changeset:"45e942d1ae7f0ffe7f0540daf45c7c48850b05bc/rtems" 45e942d/rtems]:

```

1 score: Rename _Scheduler_Set_idle_thread()
2
3 Rename _Scheduler_Set_idle_thread() in _Scheduler_Node_set_idle_user().
4 ↪ and move
5 it to <rtems/score/schedulernodeimpl.h>.
6
7 Update #4531.
```

Author: Trac Migrate 2021-11-23T13:35:13.000Z

Original author: sebastian.huber

In [changeset:"7ae4f56929a46375fd0e2ca39fe2a2d662abdda1/rtems" 7ae4f569/rtems]:

```

1 score: Not set CPU in _Scheduler_Use_idle_thread()
2
3 Do not set the CPU of the idle thread in _Scheduler_Use_idle_thread().
4 ↪ This
5 helps to use _Scheduler_Try_to_schedule_node() under more general
6 ↪ conditions in
7 the future, for example in case the owner and user of a node are not
8 ↪ the same.
9
10 Update #4531.
```

Author: Trac Migrate 2021-11-23T13:35:17.000Z

Original author: sebastian.huber

In [changeset:"f0f60a1ec3758c9fd2a92f854fef326d081a9bcc/rtems" f0f60a1/rtems]:

```

1 score: Change _Scheduler_Try_to_schedule_node()
2
3 Add the victim node as parameter instead of the idle thread.
4
5 Update #4531.

```

Author: Trac Migrate 2021-11-23T13:35:20.000Z

Original author: sebastian.huber

In [changeset:"bd55f69f5bff8e9cc39bae08f489feaa94e1dbb3/rtems"bd55f69/rtems]:

```

1 score: Simplify _Scheduler_Exchange_idle_thread()
2
3 Remove superfluous idle parameter.
4
5 Update #4531.

```

Author: Trac Migrate 2021-11-23T13:35:24.000Z

Original author: sebastian.huber

In [changeset:"e78709176456a57d82bac836c1cb5a2cabe63d22/rtems"e787091/rtems]:

```

1 score: Add missing idle thread releases
2
3 Update #4531.

```

Author: Trac Migrate 2021-11-23T13:35:28.000Z

Original author: sebastian.huber

In [changeset:"81659420b01f235a29a04be52ec5375d4d593f53/rtems"81659420/rtems]:

```

1 score: Add missing idle thread exchanges
2
3 Update #4531.

```

Author: Trac Migrate 2021-11-23T13:35:31.000Z

Original author: sebastian.huber

In [changeset:"6286a40aa3d65baf2270fb13439d9b0c4f909323/rtems"6286a40/rtems]:

```

1 score: Scheduler insert after move
2
3 Insert nodes after moving the second node to reduce the items in the
4 data structure for the insert operation. This also avoids having two
5 nodes for the same processor inserted into the scheduled chain.
6
7 Update #4531.

```

Author: Trac Migrate 2021-11-23T13:35:35.000Z

Original author: sebastian.huber

In [changeset:"757a10964f233fd73936cb41161324123634b420/rtems"757a1096/rtems]:

```

1 score: Remove return value from enqueue scheduled
2
3 The return value was unused. Remove it.
4
5 Update #4531.

```

Author: Trac Migrate 2021-11-23T13:35:38.000Z

Original author: sebastian.huber

In [changeset:"a53229bbb6526c16c65d0f9bbeeb7ea10cd59d6a/rtems"a53229bb/rtems]:

```

1 score: Use extract from scheduled callbacks
2
3 Use the extract from scheduled callback provided by the scheduler
4 implementation in the SMP scheduler framework.
5
6 Update #4531.

```

Author: Trac Migrate 2021-11-23T13:35:42.000Z

Original author: sebastian.huber

In [changeset:"9d3e821279cb4443e184088ef4b708cc36b55101/rtems"9d3e8212/rtems]:

```

1 score: Rework affine ready queue handling
2
3 Rework the handling of the affine ready queue for the EDF SMP scheduler.
4 Do the queue handling in the node insert, move, and extract operations.
5 Remove the queue handling from _Scheduler_EDF_SMP_Allocate_processor().
6
7 Update #4531.

```


Author: Trac Migrate 2021-11-23T13:35:45.000Z

Original author: sebastian.huber

In [changeset:"75527ef386faef60d41dccf5f30fc9fbad52ee07/rtems" 75527ef3/rtems]:

```

1 score: Optimize SMP EDF move to ready operation
2
3 If a node is moved from the scheduled chain to the ready queue, then we
4 know that it is the highest priority ready node. So, it can be
5 prepended to the ready queue without doing any comparisons.
6
7 Update #4531.
```

Author: Trac Migrate 2021-11-23T13:35:49.000Z

Original author: sebastian.huber

In [changeset:"3781709f2846d43f14fcaca191b36dfc6164eec7/rtems" 3781709/rtems]:

```

1 score: Add SMP scheduler idle exchange callback
2
3 Update #4531.
```

Author: Trac Migrate 2021-11-23T13:35:56.000Z

Original author: sebastian.huber

In [changeset:"ff20bc981654ec896ca2b7830962079b2e20c29e/rtems" ff20bc9/rtems]:

```

1 score: Rework idle handling in SMP schedulers
2
3 This patch fixes an issue with the idle thread handling in the SMP
4 scheduler framework used for the MrsP locking protocol. The approach to
5 use a simple chain of unused idle threads is broken for schedulers which
6 support thread to processor affinity. The reason is that the thread to
7 processor affinity introduces another ordering indicator which may under
8 certain conditions lead to a reordering of idle threads in the scheduled
9 chain. This reordering is not propagated to the chain of unused idle
10 threads. This could lead to use an idle thread for a sticky scheduler
11 node which is already in use. This locks up the system in infinite
12 loops in the thread context switch procedure.
13
14 To fix this, the SMP scheduler implementations must now provide
15 callbacks to get and release an unused idle thread.
```

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16
17 Update #4531.

Author: Trac Migrate 2021-11-23T13:36:09.000Z

Original author: sebastian.huber

In [changeset:"dcd8b939ba178b29dd84ea1cc8d574934596e882/rtems" dcd8b93/rtems]:

```
1 score: Move _Scheduler_Block_node()
2
3 Move _Scheduler_Block_node() into _Scheduler_SMP_Block(). This
  ↳simplifies the
4 code and makes it easier to review.
5
6 Update #4531.
```

Author: Trac Migrate 2021-11-23T13:36:13.000Z

Original author: sebastian.huber

In [changeset:"c6362f640a084b3972f9d80e029c607a5d5f52e3/rtems" c6362f6/rtems]:

```
1 score: Move _Scheduler_Unblock_node()
2
3 Move _Scheduler_Unblock_node() into _Scheduler_SMP_Unblock(). This
  ↳simplifies
4 the code and makes it easier to review.
5
6 Update #4531.
```

Author: Trac Migrate 2021-11-23T13:36:16.000Z

Original author: sebastian.huber

In [changeset:"d0434b886332fab34ad5dca292de3a2db90e0615/rtems" d0434b88/rtems]:

```
1 score: Remove victim thread from CPU allocation
2
3 Update #4531.
```

Author: Trac Migrate 2021-11-23T13:36:20.000Z

Original author: sebastian.huber

In [changeset:"4d90289e7169ad96137b7b92b7f05d25bd82ab08/rtems" 4d90289e/rtems]:

```

1 score: _Scheduler_SMP_Schedule_highest_ready()
2
3 Simplify callers of _Scheduler_SMP_Schedule_highest_ready(). Move the
  ↳ node
4 state change and the extraction from scheduled into
5 _Scheduler_SMP_Schedule_highest_ready(). Move the idle thread release
  ↳ to the
6 caller which have more information about the presence of an idle thread.
7
8 Update #4531.
```

Author: Trac Migrate 2021-11-23T13:36:23.000Z

Original author: sebastian.huber

In [changeset:"fc64e837c3544c3462539237fec4e90726aa8727/rtems" fc64e837/rtems]:

```

1 score: Rework ask for help requests
2
3 Process ask for help requests on the current processor. This avoids
4 using inter-processor interrupts to make the system behaviour a bit more
5 predictable.
6
7 Update #4531.
```

Author: Trac Migrate 2021-11-23T13:36:27.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"6443c9dbb7dda8a19ae311c126a19d16ec975ae8/rtems" 6443c9d/rtems]:

```

1 score: Fix assertion in SMP scheduler framework
2
3 Properly assert that the scheduled chain is not empty. Fix formatting.
4
5 Close #4531.
```

Author: Amar Takhar 2024-04-25T20:49:14.756Z

changed the description

4.2.1.94 4523 - gdb 9.1 no longer builds on Cygwin (thread local error)

Id	4523
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2021-10-06T14:22:54.000Z
Updated	2025-09-19T01:11:03.203Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4523
Merges	0

The Cygwin link error is:

```

1 cp-support.o: in function `gdb_demangle(char const*, int)':
2 /home/Christian/binutils-gdb/obj/gdb/../../gdb/cp-support.c:1619:(.text+0x6472):
↪relocation truncated to fit: R_X86_64_PC32 against undefined symbol `TLS init
↪function for thread_local_segv_handler'
3 /home/Christian/binutils-gdb/obj/gdb/../../gdb/cp-support.c:1619:(.text+0x648b):
↪relocation truncated to fit: R_X86_64_PC32 against undefined symbol `TLS init
↪function for thread_local_segv_handler'
4 collect2: error: ld returned 1 exit status

```

The issue appears to be that Cygwin changed their base address for executables and there are multiple approaches to fixing this on the Internet. None of these applied cleanly to a vanilla gdb 9.1. I adapted the patch presented at <https://stackoverflow.com/questions/61984974/failed-to-build-avr-and-arm-gdb-9-1-under-cygwin-relocation-truncated-to-fit>

This patch avoids using a thread-local extern variable, which causes link errors on some platforms, notably Cygwin. The poster through this was a better pattern even outside of working around linker bugs because it encapsulates direct access to the variable inside the class, instead of having a global extern variable.

It should be noted that gdb 10.1 builds cleanly on Cygwin but discussions leaned against bumping the gdb on the 5 branch. Hence we end up with a Cygwin specific patch for gdb 9.1 on Cygwin.

- [gdb-9-1-thread-local.diff](#)

Author: Joel Sherrill 2021-10-06T15:53:24.000Z

- **Attachment** [gdb-9-1-thread-local.diff](#) added

Patch to work around thread local linking error on Cygwin

Author: Trac Migrate 2021-10-13T16:36:57.000Z

- **Owner** set to Joel Sherrill <joel@rtems.org>
- **Resolution** set to ~"fixed"

- **Status** changed from *new* to *closed*

In [changeset:"9be36688e35c382c9149cdafc71da4958794c99e/rtems-source-builder" 9be3668/rtems-source-builder]:

```
1 rtems-gdb-9.1-1.cfg: Add patch for Cygwin
2
3 The patch is needed to address link failures introduced when
4 Cygwin apparently changed their base address for executables.
5 This is not an issue with gdb 10 and this is a minimalistic
6 approach to addressing this failure on the 5 branch.
7
8 Closes #4523.
```

Author: Chris Johns 2025-09-19T01:11:03.281Z

changed the description

4.2.1.95 4520 - Re-add lost capability for custom stack allocator to allocate IDLE thread stacks

Id	4520
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2021-10-04T14:15:46.000Z
Updated	2025-09-19T01:11:03.047Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4520
Merges	1

The move to statically allocate the stacks for the IDLE threads resulted in the loss of the capability for a custom stack allocator to be able to allocate the idle threads' stacks.

Author: Trac Migrate 2021-10-11T13:41:14.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"c8a10609883c67629ea029be617a42b75d168f0f/rtems" c8a10609/rtems]:

```
1 Add support for IDLE Thread stack allocator
2
3 Add a stack allocator hook specifically for allocation of IDLE thread
4 ↪ stacks.
5 This allows the user to decide if IDLE thread stacks are statically
6 ↪ allocated
```

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```
5 or handled by the same custom allocator mechanism as other thread_
  ↳ stacks.
6
7 Closes #4520.
```

Author: Trac Migrate 2021-10-12T17:48:47.000Z

In [changeset:"30e5832dea28bb537c8a1d4de6361c2bac58033d/rtems-docs" 30e5832/rtems-docs]:

```
1 task-stack-alloc.rst: Add CONFIGURE_TASK_STACK_FROM_ALLOCATOR
2
3 Updates #4520.
```

Author: Amar Takhar 2024-04-25T20:49:13.798Z

mentioned in issue #4524

Author: Chris Johns 2025-09-19T01:11:03.096Z

changed the description

4.2.1.96 4516 - Map LibBSD bus space to the PCI base address for motorola_powerpc BSP

Id	4516
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2021-09-18T08:08:55.000Z
Updated	2025-09-19T01:11:02.891Z
Milestone	5.1
Labels	arch:powerpc, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4516
Merges	1

This provides the per BSP support for a split PCI address space in LibBSD for this the MVME2307 BSP

Author: Trac Migrate 2021-09-22T01:05:17.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"99698fb5a2aac5bd788d3d485fd45f9a39947be0/rtems" 99698fb/rtems]:

```
1 powerpc/motorola_powerpc: Map LibBSD bus space to the PCI base address
2
3 Closes #4516
```

Author: Chris Johns 2025-09-19T01:11:02.943Z

changed the description

4.2.1.97 4515 - Make [out/in] le and be calls conditional

Id	4515
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2021-09-18T08:07:01.000Z
Updated	2025-09-19T01:11:02.731Z
Milestone	5.1
Labels	arch:powerpc, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4515
Merges	0

These calls clash with the Linux IO header in LibBSD. Making these conditional here means BSPs build and the imported Linux header is untouched.

Author: Chris Johns 2022-11-09T23:26:38.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Fixed <https://git.rtems.org/rtems/commit/?h=5&id=cfef84a007bac32b6f3852ab3d9367f7cdf2c6b>

Author: Chris Johns 2025-09-19T01:11:02.783Z

changed the description

4.2.1.98 4514 - Support MVME2307 DEC Tulip driver

Id	4514
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2021-09-18T07:46:06.000Z
Updated	2025-09-19T01:11:02.553Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4514
Merges	0

Back port the MVME2307 patches from 6-freebsd-12 to support the MVME2307 (motorola_powerpc) NIC. The patches:

- Add nexus bus support for the ifdc NIC and UKPHY
- Update the bus space support to support BSP define split PCI address spaces
- Support PCI legacy support for the PowerPC

Author: Trac Migrate 2021-09-22T04:43:37.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"afb361690c555c4099abcaea94d1a975e529e254/rtems-libbsd" afb3616/rtems-libbsd]:

```

1 rtemsbsd/bus: Add PCI support to the nexus bus
2
3 - Add PCI IO region support
4
5 - Add support map buffers to PCI address space
6
7 - Add BSP conditional IO space support. Some PC implementations
8 have PCI IO space mapped differently to memory space and this needs
9 to be reflected in the busspace.
10
11 - Include bsp.h to pick per BSP configuration.
12
13 Closes #4514
```

Author: Trac Migrate 2021-09-22T04:43:39.000Z

In [changeset:"332cc9f47b52f41b27df3fd226e4657bbe3fce8b/rtems-libbsd" 332cc9f/rtems-libbsd]:


```

1 bsp/motorola_powerpc: Add dc, ukphy and legacy PCI support
2
3 - Add the dc net dev to the BSP
4
5 - Add the ukphy support
6
7 - Add PCI Legacy bus support to the PowerPC
8
9 Closes #4514

```

Author: Chris Johns 2025-09-19T01:11:02.613Z

changed the description

4.2.1.99 4512 - Count of postponed jobs is not set to zero for a newly created rate-monotonic period object (cloned)

Id	4512
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-09-09T13:15:54.000Z
Updated	2025-09-19T01:11:02.323Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4512
Merges	1

Original author: sebastian.huber

Cloned from #4511:

`rtems_rate_monotonic_get_status()` returns an arbitrary number for the count of postponed jobs if it is called for a newly created period object. The count of postponed jobs should be cleared to zero at object creation.

Author: Trac Migrate 2021-09-09T13:16:23.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"ff94ddcd841ab88e886fb94f70d204578a818c3a/rtems" ff94ddc/rtems]:

```

1 rtems: Initialize count of postponed jobs
2
3 The rtems_rate_monotonic_get_status() directive returns an arbitrary
4 number for the count of postponed jobs if it is called for a newly
5 created period object. Set the count of postponed jobs to zero during
6 object creation.
7
8 Close #4512.

```

Author: Chris Johns 2025-09-19T01:11:02.391Z

changed the description

4.2.1.100 4511 - Count of postponed jobs is not set to zero for a newly created rate-monotonic period object

Id	4511
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-09-09T13:00:32.000Z
Updated	2025-09-19T01:11:02.229Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4511
Merges	0

Original author: sebastian.huber

rtems_rate_monotonic_get_status() returns an arbitrary number for the count of postponed jobs if it is called for a newly created period object. The count of postponed jobs should be cleared to zero at object creation.

Author: Trac Migrate 2021-09-09T13:08:09.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"82a61afd8ccd695a5517451a0c8f9c4c2f9e373a/rtems" 82a61af/rtems]:

```

1 rtems: Initialize count of postponed jobs
2
3 The rtems_rate_monotonic_get_status() directive returns an arbitrary

```

(continues on next page)

(continued from previous page)

```
4 number for the count of postponed jobs if it is called for a newly
5 created period object. Set the count of postponed jobs to zero during
6 object creation.
7
8 Close #4511.
```

Author: Trac Migrate 2021-10-06T06:50:11.000Z

Original author: sebastian.huber
In [changeset:"38c2147759d1b687a7330419a04a6c84d80b784a/rtems" 38c2147/rtems]:

```
1 rtems: Set postponed jobs in rate-monotonic cancel
2
3 Set the postponed jobs count to zero in rtems_rate_monotonic_cancel()
4 ↪so that
5 rtems_rate_monotonic_get_status() returns a consistent status for
6 ↪inactive
7 periods.
8
9 Update #4511.
```

Author: Amar Takhar 2024-04-25T20:49:12.428Z

changed the description

Author: Chris Johns 2025-09-19T01:11:02.476Z

mentioned in issue #4512

4.2.1.101 4505 - posix_devctl() should return the errno directly not -1 and set errno

Id	4505
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2021-08-20T19:23:54.000Z
Updated	2025-09-19T01:11:02.072Z
Milestone	5.1
Labels	api::posix, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4505
Merges	1

The RTEMS implementation of `posix_devctl()` from POSIX 1003.26 does not return error codes as required by the standard.

“Upon successful completion, `posix_devctl()` shall return zero; otherwise an error number shall be returned to indicate the error. The value returned via the `dev_info_ptr` argument is driver dependent.”

It should return the `errno` value and not -1 and set the `errno` variable. The current behavior is wrong but understandable because the implementation is a wrapper for `close()` and `ioctl()` which do set `errno` and return -1.

Author: Joel Sherrill 2021-08-24T18:35:37.000Z

- **Description** changed

```

1 - The RTEMS implementation posix_devctl() from POSIX 1003.26 does not_
  ↪return error codes as required by the standard.
2 + The RTEMS implementation of posix_devctl() from POSIX 1003.26 does_
  ↪not return error codes as required by the standard.
3 ?                                     +++
4
5
6 "Upon successful completion, posix_devctl() shall return zero;_
  ↪otherwise an error number shall be returned to indicate the error._
  ↪The value returned via the dev_info_ptr argument is driver dependent."
7
8 It should return the errno value and not -1 and set the errno variable._
  ↪The current behavior is wrong but understandable because the_
  ↪implementation is a wrapper for close() and ioctl() which do set_
  ↪errno and return -1.
```

Author: Trac Migrate 2021-09-20T19:08:11.000Z

- **Owner** set to Ryan Long <ryan.long@oarcorp.com>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"e9712e78906e956574bbb3dc31a7b27c58ec3031/rtems" e9712e78/rtems]:

```

1 pxcdevctl: Adjust for standard (5 branch)
2
3 psxdevctl is supposed to return the value in errno. Before, it was
4 returning -1 and setting errno. Changed the tests to reflect these
5 changes. Added code from RRADE's posix_devctl.c.
6
7 Closes #4505
```

Author: Chris Johns 2025-09-19T01:11:02.127Z

changed the description

4.2.1.102 4495 - rtems-tools does not build with up-to-date llvm

Id	4495
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-08-17T06:39:51.000Z
Updated	2025-09-19T01:11:01.930Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4495
Merges	0

Original author: Christian Mauderer

On the 5 branch of the rtems-source-builder, rtems-tools can't be build if the llvm on the host is (for example) version 10 or newer. Reason is that the llvm headers use a newer C++ standard starting from that version.

On the 6 branch there already is a patch for that:

<https://git.rtems.org/rtems-tools/commit/?id=37ad446d9dce3438d6d32e1caf56d3fdccdd2ad0>

Author: Trac Migrate 2021-08-17T09:21:59.000Z

Original author: Christian Mauderer

In [changeset:"0a5d2057749066e7d184836e92c7ce5334fccc90/rtems-tools" 0a5d205/rtems-tools]:

```

1 trace: Use c++14 instead of c++11 if possible
2
3 llvm version 10 uses features from c++14 standard in the headers. With
4 that, the record/record-main-ltng.cc doesn't build any more. This patch
5 makes sure that c++14 is used if it is available.
6
7 Updates #4495
```

Author: Trac Migrate 2021-08-17T10:58:20.000Z

Original author: Christian Mauderer

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"c7870f6e6199f9fdb89cbdf6c7e75c78cb9f3d3a/rtems-source-builder" c7870f6/rtems-source-builder]:

```

1 rtems-tools: Pick up fix for modern llvm
2
3 Closes #4495

```

Author: Chris Johns 2025-09-19T01:11:01.988Z

changed the description

4.2.1.103 4494 - pppd broken if serial driver can't handle big data

Id	4494
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-08-12T09:26:09.000Z
Updated	2025-09-19T01:11:01.808Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4494
Merges	0

Original author: Christian Mauderer

Cloned from [#4493](#):

The current implementation of ppp assumes (in ppp_tty.c:pppstart) that sending characters via the termios device write function will send buffers of any length. That is not true for most drivers.

Devices that can only send one character at a time won't work with that at all. Devices that have a big enough FIFO might work most of the time. Devices that use a DMA for transmitting might work without problems.

Author: Trac Migrate 2021-08-17T06:23:55.000Z

Original author: Christian Mauderer

- **Owner** set to Christian Mauderer
- **Status** changed from *new* to *assigned*

Author: Chris Johns 2021-08-17T06:27:01.000Z

Original author: Christian Mauderer

Why is the termios driver a factor here?

How do you see this being solved?

Author: Trac Migrate 2021-08-17T06:36:23.000Z

Original author: Christian Mauderer

I posted a patch set here: <https://lists.rtems.org/pipermail/devel/2021-August/068890.html>

The problem is that our pppd installs a line discipline that basically ignores all buffering of termios. Instead it directly uses the raw console driver write. There it just assumes that a write can write any number of characters without problems:

https://git.rtems.org/rtems-libbsd/tree/rtemsbsd/sys/net/ppp_tty.c?id=02373194fe0be1ef82db419bedbf9d6ffd31dc93#n646

Our device write doesn't return how many characters it was able to handle. Instead it provides that info to termios via the `rtems_termios_dequeue_characters()` function. But this information never reaches the `pppstart` function. Therefore I adapted the interface so that the information is passed to the `pppstart` and `pppstart` can process it.

The alternatives would have been to let the driver write return the number of characters (which would touch all drivers and maybe would be a problem sometimes) or completely rewrite the pppd to not use any line discipline functions (which would have touched a lot of code with so much edge cases that I'm definitively not able to test it thoroughly).

Author: Trac Migrate 2022-02-11T07:38:40.000Z

Original author: Christian Mauderer

In `[changeset:"9942ff80c46d5658f22dc5ac9fae4dcaba4f9966/rtems"9942ff80/rtems]`:

```

1  termios: Pass number of sent chars to l_start
2
3  At the moment the line discipline start function (l_start) has no
4  possibility to get feedback about the number of characters that have
5  been sent. This patch passes that information via an additional
6  parameter.
7
8  The change might trigger a warning on existing code because of a pointer
9  mismatch but it shouldn't break it. An existing function with the old
10 API will just ignore the additional parameter.
11
12 Update #4494
```

Author: Trac Migrate 2022-02-11T07:43:22.000Z

Original author: Christian Mauderer

- **Resolution** set to ~"fixed"

- **Status** changed from *assigned* to *closed*

In [changeset:"2ce166bd372320702c27b2c3980ca9192a60b159/rtems-libbsd" 2ce166bd/rtems-libbsd]:

```

1 ppp: Fix transmitting data
2
3 The pppstart expected that a driver write would somehow magically
4 process all data passed to the write function. Because ppp disables all
5 buffering that originally has been in termios, that assumption is not
6 true for all but polled drivers.
7
8 With this patch, the pppstart now gets and processes the feedback that
9 is returned from the driver via rtems_termios_dequeue_characters.
10
11 Fixes #4494

```

Author: Chris Johns 2025-09-19T01:03:42.650Z

changed the description

4.2.1.104 4490 - rtems_partition_return_buffer() wrongly accepts buffers which are exactly at the buffer area end

Id	4490
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-08-10T10:41:25.000Z
Updated	2025-09-19T01:11:01.606Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4490
Merges	0

Original author: sebastian.huber

The range checking in rtems_partition_return_buffer() is wrong.

Author: Trac Migrate 2021-08-12T12:25:43.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"9399e12c217343545bf412a01629570377536b39/rtems" 9399e12c/rtems]:


```

1 rtems: Fix rtems_partition_return_buffer()
2
3 The rtems_partition_return_buffer() wrongly accepted which were exactly
4 at the buffer area end. Use the buffer area limit address for the range
5 checking.
6
7 Close #4490.

```

Author: Amar Takhar 2024-04-25T20:49:09.762Z

changed the description

4.2.1.105 4465 - m68k/uC5282: _fini epilog is missing

Id	4465
State	closed
Type	ISSUE
Author	Gedare Bloom
Assignee(s)	Gedare Bloom
Created	2021-07-01T18:53:31.000Z
Updated	2025-09-19T01:11:01.298Z
Milestone	5.1
Labels	arch:m68k, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4465
Merges	1

Between 4.11 and 5, something changed that causes the `_fini()` to raise an exception.

0005d428 <_fini>: 5d428: 4e56 0000 linkw %fp,#0 5d42c: 0000 .short 0x0000

0000 as an instruction is causing the exception. The problem appears to be in the linkcmds.

Author: Trac Migrate 2021-07-01T19:00:58.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"e5a1b15848e9a3da557651ce4194abf43155d295/rtems" e5a1b15/rtems]:

```

1 m68k/uC5282: linkcmds KEEP and SORT sections
2
3 Fixes a problem with bad epilog code in _fini and to keep sections
4 necessary with the -ffunction/data-sections.
5
6 Closes #4465.

```

Author: Chris Johns 2025-09-19T01:11:01.415Z

changed the description

4.2.1.106 4463 - rtems_condition_variable_signal() is implemented as a broadcast

Id	4463
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-07-01T11:20:43.000Z
Updated	2025-09-19T01:11:01.031Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4463
Merges	0

Original author: sebastian.huber

rtems_condition_variable_signal() should use _Condition_Signal().

Author: Trac Migrate 2021-07-01T11:58:44.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"737e18dbca03c086601dfbe7f90ae143bc34f964/rtems" 737e18d/rtems]:

```

1 rtems: Do not broadcast to signal a condition var
2
3 Close #4463.
```

Author: Chris Johns 2025-09-19T01:11:01.114Z

changed the description

4.2.1.107 4461 - grlib: Register system console as “/dev/console”

Id	4461
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-06-24T06:25:53.000Z
Updated	2025-09-19T01:11:00.834Z
Milestone	5.1
Labels	arch:sparc, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4461
Merges	0

Original author: sebastian.huber

The driver manager console driver did not register the system console as “/dev/console” this resulted in some test failures (for example spconsole01.exe).

Author: Trac Migrate 2021-06-24T06:54:02.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”499a89b11de79782a0d6b55f876f871a4823eea6/rtems”
499a89b/rtems]:

```

1 grlib: Register system console as /dev/console
2
3 Close #4461.
```

Author: Chris Johns 2025-09-19T01:11:00.894Z

changed the description

4.2.1.108 4457 - shell command problem

Id	4457
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-06-11T08:22:06.000Z
Updated	2025-09-19T01:11:00.771Z
Milestone	5.1
Labels	cpukit::shell, priority::normal, resolution::invalid, rtems::shell, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4457
Merges	0

Original author: tianye@sugon.com

If one task is default mode, “task” command in shell echo “P:T:nA”, actually default task mode is “P:nT:nA”

func:rtems_monitor_dump_modes

Author: Trac Migrate 2021-06-11T08:22:59.000Z

Original author: tianye@sugon.com

- **Summary** changed from *shell command task problem* to *shell command problem*

Author: Chris Johns 2022-11-10T00:41:51.000Z

Original author: tianye@sugon.com

- **Resolution** set to ~”invalid”
- **Status** changed from *new* to *closed*

Not sure what the issue is.

Author: Gedare Bloom 2025-06-10T15:03:09.758Z

changed the description

4.2.1.109 4456 - bsp/i386: TSC calibration inaccurate (cloned)

Id	4456
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-06-11T06:32:36.000Z
Updated	2025-09-19T01:11:00.677Z
Milestone	5.1
Labels	arch:i386, priority::normal, resolution::fixed, rtems::clock, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4456
Merges	1

Original author: soja

Cloned from [#4455](#):

The current implementation of the TSC calibration during startup yields inaccurate results.

There are 2 issues:

1. Rounding error:

The `calibrate_tsc` function calibrates for 1s by waiting for `rtems_clock_get_ticks_per_second()` ticks via the PIT.

The PIT has a frequency of 1193182 Hz. For a rtems tick of 1ms this yields 1193. Waiting for 1s means then waiting for 1193000 PIT ticks (instead of the full 1193182). For a 1 GHz TSC clock this would yield already ~150 kHz less then the correct TSC frequency.

2. Waiting for the first loop at begin of timer period

```

1 for (i = rtems_clock_get_ticks_per_second() * pc386_isrs_per_tick;
2 i != 0; --i) {
3 /* We know we've just completed a tick when timer goes from low to high */
4 then_lsb = then_msb = 0xff;
5 do {                                     <== First loop does not start at begin of clock_
   ↳period
6 READ_8254(now_lsb, now_msb);
7 if ((then_msb < now_msb) ||
8 ((then_msb == now_msb) && (then_lsb < now_lsb)))
9 break;
10 then_lsb = now_lsb;
11 then_msb = now_msb;
12 } while (1);
13 }
```

This can yield deviations of several MHz for the TSC frequency. For example, for a tested CPU with a TSC frequency of 19167.1 MHz yields a calibration result of 1912.3 MHz.

Proposed solution

- Just wait 1193182 PIT ticks for 1 s instead of a number of rtems ticks
- Use the raw timer value instead of waiting for clock ticks.

Author: Trac Migrate 2021-06-11T06:32:53.000Z

Original author: soja

- **Owner** set to soja
- **Status** changed from *new* to *accepted*

Author: Trac Migrate 2021-06-21T08:15:12.000Z

Original author: soja

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"4925ab4f52282699b373e87cda93f4bf1d150940/rtems" 4925ab4/rtems]:

```
1 bsp/i386: Update calibration of TSC to be more accurate
2
3 Closes #4456
```

Author: Amar Takhar 2024-04-25T20:49:07.601Z

changed the description

4.2.1.110 4452 - libbsd/i386: Include header error through bus.h

Id	4452
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-06-08T13:51:48.000Z
Updated	2025-09-19T01:11:00.510Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4452
Merges	0

Original author: soja

Currently compilations of applications fails at rtemsbsd/include/bus.h:

```

1 #ifdef __i386__
2 #error "your include paths are wrong"
3 #endif

```

Proposed solution: Install the header files for i386, so that the original ones from FreeBSD will be used.

Author: Trac Migrate 2021-06-09T19:02:17.000Z

Original author: soja

Closed with commits:

<https://git.rtems.org/rtems-libbsd/commit/?h=5-freebsd-12&id=9edb1201f67c3c9c77531bae52ab75bfea0e5aad>

<https://git.rtems.org/rtems-libbsd/commit/?h=5-freebsd-12&id=5c1b99e4d24530492dcd436ca9718676883ab7f3>

Author: Trac Migrate 2021-06-09T19:02:41.000Z

Original author: soja

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Author: Chris Johns 2025-09-19T01:11:00.571Z

changed the description

4.2.1.111 4429 - clock_nanosleep() may use wrong clock for relative times (cloned)

Id	4429
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-05-18T18:45:29.000Z
Updated	2025-09-19T01:11:00.263Z
Milestone	5.1
Labels	api::posix, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4429
Merges	1

Original author: sebastian.huber

Cloned from [#4426](#):

For relative times, the clock identifier is not used to select the clock and instead always the `CLOCK_MONOTONIC` is used. A side-effect is that `sleep()` and `nanosleep()` use the wrong clock (`CLOCK_MONOTONIC` instead of `CLOCK_REALTIME`).

Author: Trac Migrate 2022-05-04T13:55:19.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"5d73509a340cbb88f2c8e5f7d634d7c72a569452/rtems" 5d73509/rtems]:

```
1 posix: Fix use of clock for relative times
2
3 Close #4429.
```

Author: Chris Johns 2025-09-19T01:11:00.332Z

changed the description

4.2.1.112 2555 - Eliminate the Giant lock

Id	2555
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-01-27T08:35:06.000Z
Updated	2025-09-19T01:11:00.063Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2555
Merges	0

Original author: sebastian.huber

Background

The standard approach to turn a uni-processor operating system into an SMP-capable operating system is to encapsulate virtually the complete operating system state and protect it by one global recursive lock - the Giant lock. Thus, at most one processor can modify the operating system state at a time. Under Giant lock protection interrupt disable/enable critical sections still work. This approach is easy to realize and leads to something that runs on SMP with a minimal effort. Unfortunately, such an operating system does not scale with the processor count and offers very poor performance. It is quite useless for real applications.

The first steps to get rid of the Giant lock are tackled with the introduction of fine grained locking for the scheduler, watchdog handler, timestamps, thread queues, events, semaphores and message queues. The Giant lock is still used in a couple of places, e.g. all other objects using thread queues, thread life cycle changes (termination, restart) and scheduler changes. It is a straight forward task to eliminate it entirely, but it is also somewhat labour intensive since a lot of code must be changed.

Implementation

Eliminate all remaining code areas that use `* _ISR_Disable()`, `* _ISR_Enable()`, and `* _ISR_Flash()`. Direct users of these macros are `* _Chain_Append()`, `* _Chain_Extract()`, `* _Chain_Get()`, `* _Chain_Insert()`, and `* _Chain_Prepend()`. Each spot must be dealt with individually. Once this is done, delete these macros since they are now superfluous. Rename `_ISR_Disable_without_giant()` into `_ISR_Locale_disable()`. Rename `_ISR_Enable_without_giant()` into `_ISR_Locale_enable()`.

Eliminate all remaining code areas that use `* _Thread_Disable_dispatch()` and `* _Thread_Enable_dispatch()`. A prominent user of this functions is `_Objects_Get()`. The following components are affected by these functions `* Classic barrier handler`, `* Classic dual-ported memory handler`, `* Classic message queue handler`, `* Classic partition handler`, `* Classic rate-monotonic handler`, `* Classic region handler`, `* Classic semaphore handler`, `* Classic timer handler`, `* extension handler`, `* IO manager`, `* multi-processing management`, `* objects management`, `* POSIX barrier handler`, `* POSIX condition handler`, `* POSIX key handler`, `* POSIX message queue handler`, `* POSIX mutex handler`, `* POSIX rwlock handler`, `* POSIX semaphore handler`, `* POSIX spinlock handler`, `* POSIX timer handler`, `* signals`, `* thread cancellation`, `* thread life-cycle changes`, and `* thread scheduler changes`. Once this is done, delete `_Thread_Disable_dispatch()` and `_Thread_Enable_dispatch()`. As a side-effect the Giant lock will be removed.

Author: Trac Migrate 2016-02-04T11:59:58.000Z

Original author: sebastian.huber

- **Status** changed from *new* to *accepted*

Author: Trac Migrate 2016-03-04T14:01:28.000Z

Original author: sebastian.huber

[03b900d3ed120ea919ea3eded7edbece3488cff3/rtems]

Author: Trac Migrate 2016-03-04T14:16:29.000Z

Original author: sebastian.huber

In changeset 9f5754b5c226202d0a35eb729e68cdd3a26c65fc:

bsps: Avoid Giant lock in simulator clock driver Update [#2555](#).

Author: Trac Migrate 2016-03-07T07:38:38.000Z

Original author: sebastian.huber

Depends on [#2625](#), #2626, #2627, #2628. #2630 and #2631.

Author: Trac Migrate 2016-03-14T08:31:00.000Z

Original author: sebastian.huber

In changeset 77e6eba7146ba2e2074b719eec01cc7c40bbe98b:

score: Add and use `_Objects_Get_local()` This simplifies the handling with local-only objects. Update [#2555](#).

Author: Trac Migrate 2016-03-15T07:13:12.000Z

Original author: sebastian.huber

In changeset 18ff88962458f9b0aa1150a4cfc89ac5bdd622e7:

score: Use ISR lock for IO driver registration Create implementation header file. Update [#2555](#).

Author: Trac Migrate 2016-03-15T07:13:27.000Z

Original author: sebastian.huber

In changeset df91dd9f34686567042b055a623ee2db9dbe7ae6:

monitor: Use object allocator lock Use object allocator lock instead of disabled thread dispatching. Update [#2555](#).

Author: Trac Migrate 2016-03-16T06:17:33.000Z

Original author: sebastian.huber

In changeset 05ef28754ea2920133f24ce0d3c6e274408c3b75:

sapi: Do not disable thread dispatching Do not disable thread dispatching to add a user extension. After startup, the object allocator lock is enough. Update [#2555](#).

Author: Trac Migrate 2016-03-16T06:20:19.000Z

Original author: sebastian.huber

In changeset 474b9beaa5fd6153ffa8ffe10d09acdaa8609da:

score: Use allocator lock in `_Objects_Get_next()` Use the object allocator lock in `_Objects_Get_next()` instead of disabled thread dispatching since object creation and deletion is covered by this lock. Update [#2555](#).

Author: Trac Migrate 2016-03-17T08:03:25.000Z

Original author: sebastian.huber

In changeset 75aef54d16baab507134a5011e955151b990dcf6:

posix: Avoid Giant lock in sched_yield() Update [#2555](#).

Author: Trac Migrate 2016-03-17T08:03:38.000Z

Original author: sebastian.huber

In changeset f5bb299190750189e89849a178173a21d1afd104:

rtems: Avoid Giant lock in rtems_task_mode() Update [#2555](#).

Author: Trac Migrate 2016-03-17T08:03:50.000Z

Original author: sebastian.huber

In changeset 92dee4ab9cf806553d0cdaeb4968d25ced4a8b3a:

rtems: Avoid Giant lock in rtems_signal_catch() Update [#2555](#).

Author: Trac Migrate 2016-03-21T06:45:36.000Z

Original author: sebastian.huber

In changeset be8897644043e4378db7add02c3c9e1ac7fde563:

mpci: Avoid Giant lock The object creation/deletion is protected by the object allocator lock. Update [#2555](#).

Author: Trac Migrate 2016-03-22T06:44:37.000Z

Original author: sebastian.huber

In changeset 30cac38f157f0b4bd10a9b310e3dd6fdcf1d242e:

rtems: Use object allocator lock Object creation and destruction is protected by the object allocator lock and not disabled thread dispatching. Update [#2555](#).

Author: Trac Migrate 2016-03-22T07:05:48.000Z

Original author: sebastian.huber

In changeset 865f110b58d944db72a71296fe3f15a4b8de097a:

score: Fix for RTEMS_DEBUG The rtems_extension_create() no longer uses the Giant lock. Ensure that we call _User_extensions_Add_set() only in the right context. Update [#2555](#).

Author: Trac Migrate 2016-03-29T11:43:38.000Z

Original author: sebastian.huber

In changeset 3feca902a2e2dac8e07637be6f5a68524a76f85a:

score: Fix `_Objects_MP_Is_remote()` Bug introduced by
be8897644043e4378db7add02c3c9e1ac7fde563. Update [#2555](#).

Author: Trac Migrate 2016-03-31T11:57:24.000Z

Original author: sebastian.huber

In changeset c01401c48128218189c0d50743c47679bcad7e0c:

score: `_User_extensions_Remove_set()` Use unprotected chain operation
in `_User_extensions_Remove_set()` since the caller must own the object
allocator lock. Update [#2555](#).

Author: Trac Migrate 2016-04-06T08:32:19.000Z

Original author: sebastian.huber

In changeset d995a263b5de31583cd269c71a5ef760e98e8f26:

score: Delete `_Chain_Append()` This function is not used in the score.
Update [#2555](#).

Author: Trac Migrate 2016-04-19T05:23:00.000Z

Original author: sebastian.huber

In changeset 362722795abb917fb53d8903eae450c78ba43be4:

sapi: Avoid Giant lock for extensions Extension create and delete is pro-
tected by the object allocator lock. Update [#2555](#).

Author: Trac Migrate 2016-04-19T05:23:26.000Z

Original author: sebastian.huber

In changeset 709f38a97287ff1aa8e8c0668c2d066e711db87c:

score: Use chain iterator for user extensions Add a lock and use a chain
iterator for safe iteration during concurrent user extension addition and
removal. Ensure that dynamically added thread delete and fatal exten-
sions are called in reverse order. Update [#2555](#). Update [#2692](#).

Author: Trac Migrate 2016-04-21T05:34:38.000Z

Original author: sebastian.huber

In changeset 48b04fc388a60fc6621233ddbb7cd65d89bb63d8:

posix: Avoid Giant lock for mutexes Delete `_POSIX_Mutex_Get()`. Use `_POSIX_Mutex_Get_interrupt_disable()` instead. Update [#2555](#).

Author: Trac Migrate 2016-04-21T05:34:49.000Z

Original author: sebastian.huber

In changeset adbedd10cfe5259018b1682d903ab40f6005b3f0:

score: Introduce `_Thread_queue_Flush_critical()` Replace `_Thread_queue_Flush()` with `_Thread_queue_Flush_critical()` and add a filter function for customization of the thread queue flush operation. Update [#2555](#).

Author: Trac Migrate 2016-04-27T06:51:34.000Z

Original author: sebastian.huber

In changeset 7f4ee2b4ae39928ab5f449048e562ef6b2c5d17d:

posix: Avoid Giant lock for condition variables Update [#2555](#).

Author: Trac Migrate 2016-05-02T10:07:32.000Z

Original author: sebastian.huber

In changeset 7e66865e17d7a82add541056de13717793da002a:

score: Move message notification Move message notification to end of critical section and delegate the message queue release to the notification handler. It may do more complex notification actions out of the critical section. Update [#2555](#).

Author: Trac Migrate 2016-05-02T10:07:42.000Z

Original author: sebastian.huber

In changeset 6741d30a310695f4fe4c8accb86ccf7389567bd:

rtems: Avoid Giant lock for message queues Update [#2555](#).

Author: Trac Migrate 2016-05-02T10:07:53.000Z

Original author: sebastian.huber

In changeset c8982e5f6a4857444676165deab1e08dc91a6847:

posix: Simplify message queues The `mq_open()` function returns a descriptor to a POSIX message queue object identified by a name. This is similar to `sem_open()`. In contrast to the POSIX semaphore the POSIX

message queues use a separate object for the descriptor. This extra object is superfluous, since the object identifier can be used directly for this purpose, just like for the semaphores. Update [#2702](#). Update [#2555](#).

Author: Trac Migrate 2016-05-02T10:08:03.000Z

Original author: sebastian.huber

In changeset f009ed086d3da813a2c92b9834c3b2d618894883:

rtems: Avoid Giant lock for semaphores Update [#2555](#).

Author: Trac Migrate 2016-05-02T10:08:13.000Z

Original author: sebastian.huber

In changeset f4d541ccfe6a6e64a06cbf89bc7b03e045f62281:

rtems: Avoid Giant lock in rtems_object_set_name() Update [#2555](#).

Author: Trac Migrate 2016-05-02T10:08:22.000Z

Original author: sebastian.huber

In changeset 77726405fab31a04834e95968d1942fc81d0644d:

score: _Objects_Get_name_as_string() Avoid Giant lock in _Objects_Get_name_as_string(). Update [#2555](#).

Author: Trac Migrate 2016-05-02T10:08:41.000Z

Original author: sebastian.huber

In changeset 1ef8e4a8e93a848e2a68f37e029039300f1c936b:

score: Avoid Giant lock for set time of day Update [#2555](#). Update [#2630](#).

Author: Trac Migrate 2016-05-02T10:09:10.000Z

Original author: sebastian.huber

In changeset 259d885168b548b5e5bea5067f112a0d8b94d167f:

posix: Remove superfluous thread dispatch disable The _Thread_queue_Enqueue_critical() already deals with thread dispatching. Update [#2555](#).

Author: Trac Migrate 2016-05-02T10:09:20.000Z

Original author: sebastian.huber

In changeset 66374dfc0c42066fac5f9a62475029711baac735:

posix: Avoid Giant lock in _POSIX_signals_Send() Update #2555. Update #2690.

Author: Trac Migrate 2016-05-04T05:29:06.000Z

Original author: sebastian.huber

[1d40d81b4b8dd50e4162b0b79b60d3312d2744e5/rtems]

Author: Trac Migrate 2016-05-04T05:55:38.000Z

Original author: sebastian.huber

In changeset b30ab250f0967920d6c08eae776fb82e717da182:

mpci: Avoid Giant lock in _MPCI_Process_response() Update #2555. Update #2703.

Author: Trac Migrate 2016-05-06T06:18:14.000Z

Original author: sebastian.huber

In changeset bb2ad039a7246eecde65592a5116c86d3dede34b:

rtems: Avoid Giant lock for signals Update #2555.

Author: Trac Migrate 2016-05-06T06:18:27.000Z

Original author: sebastian.huber

In changeset 64051ec80b55c3945ace509fa275c21ab8c89ab1:

posix: Avoid Giant lock in pthread_equal() Update #2555.

Author: Trac Migrate 2016-05-06T06:18:40.000Z

Original author: sebastian.huber

In changeset f65f803a269784f6f05658054dd1709497ca5049:

score: Avoid Giant lock for CBS scheduler Update #2555.

Author: Trac Migrate 2016-05-12T11:34:25.000Z

Original author: sebastian.huber

In changeset 4d76300ae524f798bf665f6c28dca420fd23a59c:

rtems: Avoid Giant lock for some task operations Avoid Giant lock for `rtems_task_set_priority()`, `rtems_task_suspend()` and `rtems_task_resume()`. Update #2555.

Author: Trac Migrate 2016-05-12T11:34:34.000Z

Original author: sebastian.huber

In changeset 11c66437e750e6f8c464a96476c5f5221c1808a6:

rtems: Avoid Giant lock `rtems_task_is_suspended()` Update #2555.

Author: Trac Migrate 2016-05-12T11:34:44.000Z

Original author: sebastian.huber

In changeset bd12dda405e1bab16c522f7ef0dd2b455230d269:

score: Use thread state lock for current state In addition protect scheduler of thread by thread state lock. Enables use of scheduler per-instance locks. Update #2555.

Author: Trac Migrate 2016-05-12T11:34:54.000Z

Original author: sebastian.huber

In changeset e135271b933c896068a343b161773ce3b685be43:

score: Avoid Giant lock `_Scheduler_Set_affinity()` Update #2555.

Author: Trac Migrate 2016-05-12T11:35:04.000Z

Original author: sebastian.huber

In changeset d99529999451043166c6dbf3ef22be42463e16f3:

score: Avoid Giant lock `_Scheduler_Get_affinity()` Update #2555.

Author: Trac Migrate 2016-05-12T11:35:13.000Z

Original author: sebastian.huber

In changeset 8bc6bf28aa098a03c25763e3c59274874bfbe3da:

posix: Avoid Giant lock for some pthread functions Avoid Giant lock for `pthread_getattr_np()`, `pthread_setschedparam()` and `pthread_getschedparam()`. Replace POSIX threads scheduler lock with thread state lock. Update #2555.

Author: Trac Migrate 2016-05-12T11:35:23.000Z

Original author: sebastian.huber

In changeset ef6f8a8377964a2d94eb7215724d11b499ec078b:

score: Avoid Giant lock for scheduler set/get Update [#2555](#).

Author: Trac Migrate 2016-05-20T05:56:47.000Z

Original author: sebastian.huber

In changeset e75374870375099eb097f189905be709008fb3c0:

score: Delete redundant thread life enums This makes it easier to add more states in the future. Update [#2555](#). Update [#2626](#).

Author: Trac Migrate 2016-05-20T05:56:57.000Z

Original author: sebastian.huber

In changeset b7f5e391c0c0e94e5958a294e5d38b1dda7332cc:

score: Add _Thread_Exit() The goal is to make _Thread_Exit() a no-return function in follow up patches. Update [#2555](#). Update [#2626](#).

Author: Trac Migrate 2016-05-20T05:57:07.000Z

Original author: sebastian.huber

In changeset 270394eef82ae584477cb9c443d4a5c8e67978eb:

score: Avoid superfluous life protection Disable thread dispatching is enough to prevent deletion of the executing thread. There is no need for an additional life protection. Update [#2555](#). Update [#2626](#).

Author: Trac Migrate 2016-05-20T05:57:17.000Z

Original author: sebastian.huber

In changeset 69c722f3f6ac84eca42e68eda0e1ed63fd3702e7:

score: Delete unused variable Update [#2555](#). Update [#2626](#).

Author: Trac Migrate 2016-05-20T05:57:27.000Z

Original author: sebastian.huber

In changeset 9949d8a7d042da7ba53516300db5c34c8b9c8a31:

score: Add Thread_Change_life() Add _Thread_Change_life_locked() as a general function to alter the thread life state. Use it to implement _Thread_Set_life_protection() as a first step. Update [#2555](#). Update [#2626](#).

Author: Trac Migrate 2016-05-20T05:57:37.000Z

Original author: sebastian.huber

In changeset 7023d82ca6bdf7e0fa1d1c10481671dd744d894:

score: Add `_Thread_Raise_real_priority()` Update [#2555](#). Update [#2626](#).

Author: Trac Migrate 2016-05-20T05:57:47.000Z

Original author: sebastian.huber

In changeset c99eb50b9f66e76cdd6aa0833321550c9b9e655c:

score: Rework `_Thread_Exit()` Rework `_Thread_Exit()` to use `_Thread_Change_life_locked()`. Update [#2555](#). Update [#2626](#).

Author: Trac Migrate 2016-05-20T05:57:57.000Z

Original author: sebastian.huber

In changeset 232147ddc12d45ff7872f72a790077c26fe5ca0a:

score: Add `_Thread_Join()` and `_Thread_Cancel()` Split `_Thread_Close()` into `_Thread_Join()` and `_Thread_Cancel()` to prepare for a re-use in `pthread_join()` and `pthread_cancel()`. Update [#2555](#). Update [#2626](#).

Author: Trac Migrate 2016-05-20T05:58:07.000Z

Original author: sebastian.huber

In changeset 9a99ce15d0878d847b4c7e054eb2996a9f5fbc34:

score: Add `_Thread_Set_state_locked()` This makes it possible to do thread state and thread life changes together under protection of the thread state lock. Update [#2555](#). Update [#2626](#).

Author: Trac Migrate 2016-05-20T05:58:17.000Z

Original author: sebastian.huber

In changeset f410ea82a4b9d5609ce170d2aa09027b5a7c4c50:

score: Add `_Thread_Clear_state_locked()` This makes it possible to do thread state and thread life changes together under protection of the thread state lock. Update [#2555](#). Update [#2626](#).

Author: Trac Migrate 2016-05-20T05:58:27.000Z

Original author: sebastian.huber

In changeset 0475cca9a015a7b43209270ca6e40aebf177639a:

score: Add `_Thread_Dispatch_disable_with_CPU()` Update [#2555](#). Update [#2626](#).

Author: Trac Migrate 2016-05-20T05:58:37.000Z

Original author: sebastian.huber

In changeset 938839077741d2eac82d9d86705c16e0b9de8379:

score: Split `_Thread_Restart()` into `_Thread_Restart_self()` and `_Thread_Restart_other()`. Move content of existing `_Thread_Restart_self()` into new `_Thread_Restart_self()`. Avoid Giant lock for thread restart. `_Thread_Restart_self()` is a no-return function and used by `_Thread_Global_construction()`. Update [#2555](#). Update [#2626](#).

Author: Trac Migrate 2016-05-20T05:58:47.000Z

Original author: sebastian.huber

In changeset 862a0eeb1197539c0e69381cb5aacb9e1c64c0f:

score: Rework `_Thread_Restart_other()` to use `_Thread_Change_life_locked()`. Cope with concurrent change requests by means of a pending request counter. Update [#2555](#). Update [#2626](#).

Author: Trac Migrate 2016-05-20T05:58:58.000Z

Original author: sebastian.huber

In changeset ef09017ebb6ac9c1309df4e827b240c14e6dbaa9:

score: Rework `_Thread_Cancel()` to use `_Thread_Change_life_locked()`. Update [#2555](#). Update [#2626](#).

Author: Trac Migrate 2016-05-20T05:59:08.000Z

Original author: sebastian.huber

In changeset 29e1ecab875c3121357f27e0676913d9ca96183f:

score: Simplify `_Thread_Life_action_handler()` to avoid duplicated code. Avoid Giant lock in `_Thread_Life_action_handler()`. Update [#2555](#). Update [#2626](#).

Author: Trac Migrate 2016-05-20T05:59:18.000Z

Original author: sebastian.huber

In changeset 54550e048d3a49435912797d2024f80671e93267:

posix: Rework pthread_join() Rework pthread_join() to use
_Thread_Join(). Close #2402. Update #2555. Update #2626.
Close #2714.

Author: Trac Migrate 2016-05-20T05:59:29.000Z

Original author: sebastian.huber

In changeset 33829ce155069462ba410d396da431386369ed08:

score: Avoid Giant lock for _Thread_Start() Update #2555.

Author: Trac Migrate 2016-05-20T05:59:39.000Z

Original author: sebastian.huber

In changeset da82656065d09f7b6aa411ba361287afdd787204:

posix: Rework thread cancellation Add
Thread_Life_state::THREAD_LIFE_CHANGE_DEFERRED and rework
the POSIX thread cancellation to use the thread life states. Update
#2555. Update #2626.

Author: Trac Migrate 2016-05-20T05:59:49.000Z

Original author: sebastian.huber

In changeset 64fe16636b45d7a3d64654707234b885f7ccba6:

posix: Avoid Giant lock for pthread_kill() Update #2555.

Author: Trac Migrate 2016-05-20T06:00:00.000Z

Original author: sebastian.huber

In changeset f36ada320dc075503a2c878bc4f9f7ff9d761d41:

rtems: Avoid Giant lock for rtems_task_delete() Update #2555.

Author: Trac Migrate 2016-05-20T06:00:09.000Z

Original author: sebastian.huber

In changeset 92f6883073126f96973252cd57a5c7e24d88d412:

sptests/spintrcritical22: Avoid _Objects_Get() Use
_Semaphore_Get_interrupt_disable() instead. Update #2555.

Author: Trac Migrate 2016-05-20T06:00:19.000Z

Original author: sebastian.huber

In changeset 5eac967651866b0501593dcfea458452ef9e9128:

testsuites: Replace `_Thread_Get()` Replace `_Thread_Get()` with `_Thread_Get_interrupt_disable()` to avoid the Giant lock. Update [#2555](#).

Author: Trac Migrate 2016-05-20T06:00:29.000Z

Original author: sebastian.huber

In changeset 23294fd2255031eefe708075064f58bf54d43279:

score: Delete unused `_Thread_Get()` Update [#2555](#).

Author: Trac Migrate 2016-05-20T06:00:39.000Z

Original author: sebastian.huber

In changeset ee710ef483b76ebbd54cdc8fac05a228d9ef30ff:

score: Delete unused `_Objects_Get()` Update [#2555](#).

Author: Trac Migrate 2016-05-20T06:00:48.000Z

Original author: sebastian.huber

In changeset b80156cf15a9e080e8608a30e3e2795211c03f3e:

score: Avoid Giant `_Objects_Extend_information()` Avoid Giant lock for `_Objects_Extend_information()`. Update [#2280](#). Update [#2555](#).

Author: Trac Migrate 2016-05-20T06:00:59.000Z

Original author: sebastian.huber

In changeset dab902d5b2688fe958118299f7d44d1adbf13878:

testsuites: Avoid Giant lock Replace `_Thread_Disable_dispatch()` with `_Thread_Dispatch_disable()`. Replace `_Thread_Enable_dispatch()` with `_Thread_Dispatch_enable()`. This is a preparation to remove the Giant lock. Update [#2555](#).

Author: Trac Migrate 2016-05-20T06:01:09.000Z

Original author: sebastian.huber

In changeset d2bacb6c38c2bc0e47524b943200e16ad3c26bd8:

score: `_Thread_Dispatch_increment_disable_level()`
 Avoid `_Thread_Dispatch_increment_disable_level()` and
`_Thread_Dispatch_decrement_disable_level()` and thus the Giant
 lock. This is a preparation to remove the Giant lock. Update #2555.

Author: Trac Migrate 2016-05-20T06:01:19.000Z

Original author: sebastian.huber

In changeset 4b04cb61552dbaa1a42a64e2f7b823708127e488:

score: Rename `_ISR_Disable_without_giant()` Rename
`_ISR_Disable_without_giant()` into `_ISR_Local_disable()`. Rename
`_ISR_Enable_without_giant()` into `_ISR_Local_enable()`. This is a
 preparation to remove the Giant lock. Update #2555.

Author: Trac Migrate 2016-05-20T06:01:29.000Z

Original author: sebastian.huber

In changeset 247131632173158cb2668d4e5c7464951b668067:

score: Rename `_ISR_Disable()` and `_ISR_Enable()` Rename
`_ISR_Disable()` into `_ISR_Local_disable()`. Rename `_ISR_Enable()`
 into `_ISR_Local_enable()`. Remove `_Debug_Is_owner_of_giant()`. This
 is a preparation to remove the Giant lock. Update #2555.

Author: Trac Migrate 2016-05-20T06:01:39.000Z

Original author: sebastian.huber

In changeset c2f301b580ebb4a46d657651a814bc9348103546:

score: Rename `_ISR_Flash()` into `_ISR_Local_flash()` This is a prepara-
 tion to remove the Giant lock. Update #2555.

Author: Trac Migrate 2016-05-20T06:01:48.000Z

Original author: sebastian.huber

In changeset ceb0f6597c36fabbfcbdf0807fd87dd03a45cc5e:

score: Remove the Giant lock Update #2555.

Author: Trac Migrate 2016-12-19T13:47:29.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

[09078e0e51531f3b8e166506bdf4719f5ff78717/rtems-docs]

Author: Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Trac Migrate 2017-12-15T06:24:12.000Z

Original author: sebastian.huber

In [changeset:"e1563f377de265a4663068167f866eb83d3ffdce/rtems"
e1563f37/rtems]:

```
1 posix: Remove unused global variable
2
3 Update #2702.
4 Update #2555.
```

Author: Amar Takhar 2024-04-25T20:48:53.227Z

mentioned in issue [#4409](#)

Author: Chris Johns 2025-09-19T01:11:00.038Z

mentioned in issue [#4410](#)

4.2.1.113 4410 - rtems_task_start() does not check that the entry point is not equal to NULL (cloned)

Id	4410
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-05-14T07:13:01.000Z
Updated	2025-09-19T01:10:59.739Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4410
Merges	0

Original author: sebastian.huber

Cloned from [#4409](#):

Bug was introduced by commit 33829ce155069462ba410d396da431386369ed08 related to [#2555](#).

Author: Trac Migrate 2021-05-14T07:23:40.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"b87d2a6364ecc9f11572eac1bb557336b5f3736d/rtems" b87d2a6/rtems]:

```
1 rtems: Check entry point in rtems_task_start()
2
3 Close #4410.
```

Author: Chris Johns 2025-09-19T01:10:59.871Z

changed the description

4.2.1.114 4409 - `rtems_task_start()` does not check that the entry point is not equal to NULL

Id	4409
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-05-14T07:12:33.000Z
Updated	2025-09-19T01:10:59.629Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4409
Merges	1

Original author: sebastian.huber

Bug was introduced by commit 33829ce155069462ba410d396da431386369ed08 related to [#2555](#).

Author: Trac Migrate 2021-05-14T07:23:24.000Z

- Original author: sebastian.huber
- **Resolution** set to ~"fixed"
 - **Status** changed from *assigned* to *closed*

In [changeset:"06427c8df4b5e10729fd2d648e3e974ae92df8d4/rtems"06427c8d/rtems]:

```
1 rtems: Check entry point in rtems_task_start()
2
3 Close #4409.
```

Author: Amar Takhar 2024-04-25T20:48:53.144Z

changed the description

Author: Chris Johns 2025-09-19T01:10:59.993Z

mentioned in issue [#4410](#)

4.2.1.115 4404 - ipsec-tools/setkey is leaking file descriptors

Id	4404
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-05-07T12:06:31.000Z
Updated	2025-09-19T01:10:59.328Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/4404
Merges	0

Original author: Christian Mauderer

The setkey command is opening sockets without closing them. With that it is leaking file descriptors.

Author: Trac Migrate 2021-05-11T06:47:54.000Z

Original author: Christian Mauderer

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Fixed with <https://git.rtems.org/rtems-libbsd/commit/?h=5-freebsd-12&id=a2bc8eba467ce7eebacbb0f8c206e05a184dd16f>

Author: Chris Johns 2025-09-19T01:03:41.262Z

changed the description

Author: Chris Johns 2025-09-19T01:03:41.565Z

mentioned in issue [#4405](#)

4.2.1.116 4394 - Workspace initialization is broken for arm/imx7 and arm/raspberrypi

Id	4394
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-04-29T11:38:16.000Z
Updated	2025-09-19T01:10:59.072Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4394
Merges	1

Original author: sebastian.huber

The ARMV7_CP15_START_WORKSPACE_ENTRY_INDEX has a wrong value. The bug was introduced by the fix for #4185.

Author: Trac Migrate 2021-04-29T11:41:45.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d697769d4682f9caf1e542f7d2fa669d3f4f81ab/rtems"d697769/rtems]:

```

1 bsp/arm: ARMV7_CP15_START_WORKSPACE_ENTRY_INDEX
2
3 Change the ARMV7_CP15_START_WORKSPACE_ENTRY_INDEX value to be in line
4 with the workspace entry in ARMV7_CP15_START_DEFAULT_SECTIONS.
5
6 Close #4394.
```

Author: Chris Johns 2025-09-19T01:10:59.141Z

changed the description

4.2.1.117 4371 - RTEMS5: Shell: Backport commands for spi and i2c

Id	4371
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-31T08:27:57.000Z
Updated	2025-09-19T01:10:58.963Z
Milestone	5.1
Labels	cpukit::shell, priority::normal, resolution::fixed, rtems::shell, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4371
Merges	1

Original author: soja

Backport the i2c and spi shell commands of Christian Mauderer.

Author: Trac Migrate 2021-03-31T08:28:09.000Z

Original author: soja

- **Owner** set to soja
- **Status** changed from *new* to *accepted*

Author: Trac Migrate 2021-04-06T13:16:51.000Z

Original author: soja

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"a274b6fdcb7b39b3d67aad33dba0360a47f20204/rtems" a274b6f/rtems]:

```

1 shell: Add i2c and spi commands
2
3 This adds some commands that are usefull for debugging simple serial
4 interfaces.
5
6 Even if they are a complete re-implementation, the i2c* commands use a
7 simmilar call like the Linux i2c tools.
8
9 Closes #4371
```

Author: Gedare Bloom 2025-06-10T15:03:12.876Z

changed the description

4.2.1.118 2412 - Improved priority inheritance implementation

Id	2412
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2015-09-04T13:36:28.000Z
Updated	2025-09-05T02:57:39.321Z
Milestone	5.1
Labels	cpukit, priority::high, priority::normal, resolution::fixed, rtems::score, tickettype::defect, tickettype::enhancement, version::4.5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2412
Merges	0

Original author: sebastian.huber

Problem

The RTEMS mutexes implement only a very simple approximation of the priority inheritance protocol. The real priority of a thread is only restored once it releases its last mutex. Lets consider this scenario. We have a file system instance protected by one mutex (e.g. JFFS2) and a dynamic memory allocator protected by another mutex. A low priority thread performs writes some log data into a file, thus it acquires the file system instance mutex. The file system allocates dynamic memory. Now a high priority thread interrupts and tries to allocate dynamic memory. The allocator mutex is already owned, so the priority of the low priority thread is raised to the priority of the high priority thread. The memory allocation completes and the allocator mutex is released, since the low priority thread still owns the file system instance mutex it continues to execute with the high priority (the high priority thread is not scheduled). It may now perform complex and long file system operations (e.g. garbage collection, polled flash erase and write functions) with a high priority.

Functional requirements

- The mutex shall use the priority inheritance protocol to prevent priority inversion. On SMP configurations OMIP shall be used.
- The mutex shall allow vertical nesting (a thread owns multiple mutexes).
- The mutex shall allow horizontal nesting (a thread waits for ownership of a mutex those owner waits for ownership of a mutex, and so on).
- Threads from one scheduler instance shall wait in priority order. The highest priority thread shall be dequeued first.
- The highest priority waiting thread of each scheduler instance shall wait in FIFO order.
- The mutex shall provide an acquire operation with timeout.
- In case a mutex is released, then the previous owner shall no longer use the priorities inherited by this mutex.
- In case a mutex acquire operation timeout occurs, then the current owner of the mutex shall no longer use the priorities inherited by the acquiring thread.

- The order of the mutex release operations may differ from the order of the mutex acquire operations.
- Priority changes not originating due to the priority inheritance protocol shall take place immediately.
- Deadlock shall be detected. In case a deadlock would occur an error status shall be returned or a fatal error shall be generated.
- Deadlocks at application level shall not lead to a deadlock at operating system level.

Performance requirements

- The mutex acquire operation shall use only object-specific locks in case the mutex is not owned currently.
- The mutex release operation shall use only object-specific locks in case no threads wait for ownership of this mutex.

Invariants

- A mutex shall be owned by at most one thread.
- A thread shall wait for ownership of at most one mutex.

Possible implementation

Use a recursive data structure to determine the highest priority available to a thread for each scheduler instance, e.g.

```

1 typedef struct Thread_Priority_node {
2   Priority_Control current_priority;
3   Priority_Control real_priority;
4   struct Thread_Priority_node *owner;
5   RBTNode Node;
6   RBTControl Inherited_priorities;
7 } Thread_Priority_node;
8
9 typedef struct {
10  ...
11  Thread_Priority_node *priority_nodes; /* One per scheduler instances */
12  ...
13 } Thread_Control;
```

Initially a thread has a priority node reflecting its real priority. The `Thread_Priority_node::owner` is `NULL`. The `Thread_Priority_node::current_priority` is set to the real priority. The `Thread_Priority_node::Inherited_priorities` is empty.

In case the thread must wait for ownership of a mutex, then it enqueues its priority node in `Thread_Priority_node::Inherited_priorities` of the mutex owner.

In case the thread is dequeued from the wait queue of a mutex, then it dequeues its priority node in `Thread_Priority_node::Inherited_priorities` of the previous mutex owner (ownership transfer) or the current mutex owner (acquire timeout).

In case the minimum of `Thread_Priority_node::real_priority` and `Thread_Priority_node::Inherited_priorities` changes, then `Thread_Priority_node::current_priority` is updated. In case the `Thread_Priority_node::owner` is not NULL, the priority change propagates to the owner, and so on. In case `Thread_Priority_node::current_priority` changes, the corresponding scheduler is notified.

The biggest issue is the locking on SMP configurations in case of recursive minimum updates.

Somehow we must connect this to the scheduler helping protocol for OMIP. We may have to replace the return value based scheduler operations with a pre-context-switch action. Due to some recent implementation changes the run-time of the `_Thread_Dispatch()` function is no longer average-case performance critical.

Author: Trac Migrate 2015-09-07T06:01:03.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

1 = Problem

2
3 The RTEMS mutexes implement only a very simple approximation of the
↳ priority inheritance protocol. The real priority of a thread is only
↳ restored once it releases its last mutex. Lets consider this
↳ scenario. We have a file system instance protected by one mutex (e.g.
↳ JFFS2) and a dynamic memory allocator protected by another mutex. A
↳ low priority thread performs writes some log data into a file, thus
↳ it acquires the file system instance mutex. The file system
↳ allocates dynamic memory. Now a high priority thread interrupts and
↳ tries to allocate dynamic memory. The allocator mutex is already
↳ owned, so the priority of the low priority thread is raised to the
↳ priority of the high priority thread. The memory allocation
↳ completes and the allocator mutex is released, since the low priority
↳ thread still owns the file system instance mutex it continues to
↳ execute with the high priority (the high priority thread is not
↳ scheduled). It may now perform complex and long file system
↳ operations (e.g. garbage collection, polled flash erase and write
↳ functions) with a high priority.

5 = Functional requirements

- 6
7 * The mutex shall use the priority inheritance protocol to prevent
↳ priority inversion. On SMP configurations OMIP shall be used.
- 8
9 * The mutex shall allow vertical nesting (a thread owns multiple
↳ mutexes).
- 10
11 * The mutex shall allow horizontal nesting (a thread waits for
↳ ownership of a mutex those owner waits for ownership of a mutex, and
↳ so on).

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```

12
13 * Threads from one scheduler instance shall wait in priority order. _
14   ↳ The highest priority thread shall be dequeued first.
15
16 * The highest priority waiting thread of each scheduler instance shall _
17   ↳ wait in FIFO order.
18
19 * The mutex shall provide an acquire operation with timeout.
20
21 * In case a mutex is released, then the previous owner shall no longer _
22   ↳ use the priorities inherited by this mutex.
23
24 * In case a mutex acquire operation timeout occurs, then the current _
25   ↳ owner of the mutex shall no longer use the priorities inherited by _
26   ↳ the acquiring thread.
27
28 * The order of the mutex release operations may differ from the order _
29   ↳ of the mutex acquire operations.
30
31 * Priority changes not originating due to the priority inheritance _
32   ↳ protocol shall take place immediately.
33
34 +
35 + * Deadlock shall be detected. In case a deadlock would occur an _
36   ↳ error status shall be returned or a fatal error shall be generated.
37
38 +
39 + * Deadlocks at application level shall not lead to a deadlock at _
40   ↳ operating system level.
41
42
43 = Performance requirements
44
45 * The mutex acquire operation shall use only object-specific locks in _
46   ↳ case the mutex is not owned currently.
47
48 * The mutex release operation shall use only object-specific locks in _
49   ↳ case no threads wait for ownership of this mutex.
50
51
52 = Invariants
53
54 * A mutex shall be owned by at most one thread.
55
56 * A thread shall wait for ownership of at most one mutex.
57
58
59 = Possible implementation
60
61 Use a recursive data structure to determine the highest priority _
62   ↳ available to a thread for each scheduler instance, e.g.
63
64 {{{
65 #!c

```

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```

49 typedef struct Thread_Priority_node {
50 Priority_Control current_priority;
51 Priority_Control real_priority;
52 struct Thread_Priority_node *owner;
53 RBTNode Node;
54 RBTControl Inherited_priorities;
55 } Thread_Priority_node;
56
57 typedef struct {
58 ...
59 Thread_Priority_node *priority_nodes; /* One per scheduler instances */
60 ...
61 } Thread_Control;
62 }}}}
63
64 Initially a thread has a priority node reflecting its real priority. ↵
65 ↵ The Thread_Priority_node::owner is NULL. The Thread_Priority_
66 ↵ node::current_priority is set to the real priority. The Thread_
67 ↵ Priority_node::Inherited_priorities is empty.
68
69 In case the thread must wait for ownership of a mutex, then it enqueues ↵
70 ↵ its priority node in Thread_Priority_node::Inherited_priorities of ↵
71 ↵ the mutex owner.
72
73 In case the thread is dequeued from the wait queue of a mutex, then it ↵
74 ↵ dequeues its priority node in Thread_Priority_node::Inherited_
75 ↵ priorities of the previous mutex owner (ownership transfer) or the ↵
76 ↵ current mutex owner (acquire timeout).
77
78 In case the minimum of Thread_Priority_node::real_priority and Thread_
79 ↵ Priority_node::Inherited_priorities changes, then Thread_Priority_
80 ↵ node::current_priority is updated. In case the Thread_Priority_
81 ↵ node::owner is not NULL, the priority change propagates to the owner,
82 ↵ and so on. In case Thread_Priority_node::current_priority changes, ↵
83 ↵ the corresponding scheduler is notified.
84
85 The biggest issue is the locking on SMP configurations in case of ↵
86 ↵ recursive minimum updates.
87
88 Somehow we must connect this to the scheduler helping protocol for OMIP.
89 ↵ We may have to replace the return value based scheduler operations ↵
90 ↵ with a pre-context-switch action. Due to some recent implementation ↵
91 ↵ changes the run-time of the _Thread_Dispatch() function is no longer ↵
92 ↵ average-case performance critical.

```

Author: Trac Migrate 2016-07-05T07:53:12.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2016-07-27T08:56:15.000Z

Original author: sebastian.huber

In changeset f4d1f307926b6319e5d3b325dbe424901285dec1:

score: Split `_Thread_Change_priority()` Update [#2412](#). Update [#2556](#).
Update [#2765](#).

Author: Trac Migrate 2016-07-27T08:56:26.000Z

Original author: sebastian.huber

In changeset ac8402ddd6e4a8eb6defb98220d39d4c20a6f025:

score: Simplify `_Thread_queue_Boost_priority()` Raise the priority under thread queue lock protection and omit the superfluous thread queue priority change, since the thread is extracted anyway. The unblock operation will pick up the new priority. Update [#2412](#). Update [#2556](#).
Update [#2765](#).

Author: Trac Migrate 2016-07-27T08:56:36.000Z

Original author: sebastian.huber

In changeset 3a58dc863157bb21054a144c1a21b690544c0d23:

score: Priority inherit thread queue operations Move the priority change due to priority interitance to the thread queue enqueue operation to simplify the locking on SMP configurations. Update [#2412](#). Update [#2556](#). Update [#2765](#).

Author: Trac Migrate 2016-07-27T08:56:46.000Z

Original author: sebastian.huber

In changeset 1fcac5adc5ed38fb88ce4c6d24b2ca2e27e3cd10:

score: Turn thread lock into thread wait lock The `_Thread_Lock_acquire()` function had a potentially infinite run-time due to the lack of fairness at atomic operations level. Update [#2412](#). Update [#2556](#). Update [#2765](#).

Author: Trac Migrate 2016-07-27T08:56:57.000Z

Original author: sebastian.huber

In changeset d79df38c2bea50112214ade95776cb90d693e390:

score: Add deadlock detection The mutex objects use the owner field of the thread queues for the mutex owner. Use this and add a deadlock detection to `_Thread_queue_Enqueue_critical()` for thread queues with an owner. Update [#2412](#). Update [#2556](#). Close [#2765](#).

Author: Trac Migrate 2016-09-21T07:05:43.000Z

Original author: sebastian.huber

In changeset 300f6a481aaf9e6d29811faca71bf7104a01492c:

score: Rework thread priority management Add priority nodes which contribute to the overall thread priority. The actual priority of a thread is now an aggregation of priority nodes. The thread priority aggregation for the home scheduler instance of a thread consists of at least one priority node, which is normally the real priority of the thread. The locking protocols (e.g. priority ceiling and priority inheritance), rate-monotonic period objects and the POSIX sporadic server add, change and remove priority nodes. A thread changes its priority now immediately, e.g. priority changes are not deferred until the thread releases its last resource. Replace the `_Thread_Change_priority()` function with `* _Thread_Priority_perform_actions()`, `* _Thread_Priority_add()`, `* _Thread_Priority_remove()`, `* _Thread_Priority_change()`, and `* _Thread_Priority_update()`. Update [#2412](#). Update [#2556](#).

Author: Trac Migrate 2016-12-23T14:11:26.000Z

Original author: sebastian.huber

- **Priority** changed from ~"normal" to ~"high"

Author: Trac Migrate 2017-02-01T06:59:27.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*
- **Version** ~"4.5" deleted

[8add1793d25b2f76d564028f991cac31e0f871b4/rtems-docs]

Author: Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Amar Takhar 2025-09-05T02:57:39.285Z

mentioned in issue [#3361](#)

4.2.1.119 3859 - No output from joel scripts in telnet

Id	3859
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-01-29T23:59:17.000Z
Updated	2025-06-10T15:03:08.975Z
Milestone	5.1
Labels	cpukit::shell, priority::normal, resolution::fixed, rtems::shell, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3859
Merges	1

Running a joel script in a telnet session results in the output being sent to the global stdout. For example:

```

1 $ telnet 1.2.3.4
2 Trying 1.2.3.4...
3 Connected to 1.2.3.4.
4 Escape character is '^]'.
5
6 RTEMS Shell on /dev/pty0. Use 'help' to list commands.
7 [/] # cat j
8 #! joel
9 ls -las /
10 [/] # ./j
11 [/] #
```

The bug is a new shell main loop task will default to the global stdout, stdin etc and has no information about the parent’s std handles. A joel script runs in it’s own work task and does not know the telnet’s std handles.

There are a related set of issues in the handling of the shell_env variable, POSIX key handling and the use of the external call rtems_shell_main_loop.

The telnet example in libbsd has:

```

1 static void
2 telnet_shell(char *name, void *arg)
```

(continues on next page)

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```

3 {
4 rtems_shell_env_t env;
5
6 memset(&env, 0, sizeof(env));
7
8 env.devname = name;
9 env.taskname = "TLNT";
10 env.login_check = NULL;
11 env.forever = false;
12
13 rtems_shell_main_loop(&env);
14 }

```

This is problematic as control of the env has been lost and this make backwards comptatable changes difficult. Control of this struct needs to be brought back under the shell code.

Currently the posix key is set in the parent task only when the run entry point is used. The run's created shell_env is then passed to the shell's main loop task as an argument from which it is cloned. This means an env is ``malloc``ed in each run call and again in the main loop of the shell.

The current code leaks memory as repeated calls to a joel script in a shell will set the key over and over. The destructor is only called when the task is deleted. We have to assume the cleanup of any shell_env allocated externally to the shell code has to be handled externally.

Setting the key in the main loop task is problematic because telnet code such as the example in libbsd uses a local stack shell_env and the key has a destructor that blindly free's the key's memory when a task is released.

Changes:

1. Add parent_stdout, parent_stdin, and parent_stderr to the shell_env and set to the parent's std handles.
2. Add a managed flag to shell_env and only set when allocated by rtems_shell_init_env. Change rtems_shell_env_free to only free the shell_env if managed.
3. Remove all key sets and have only one in the shell's main loop code.
4. Change rtems_shell_init_env to get the current tasks key and clone that before cloning the global env.
5. Update rtems_shell_dup_current_env to set the parent std handles.
6. Have the main loop use the parent std handles rather than the global handles.
7. Check the magic field has been set in the shell's main loop and raise an error if not set. The only code to set this field should reside in shell.c. Code such as libbsd will need to call rtems_shell_dup_current_env.

Author: Trac Migrate 2020-02-04T16:25:01.000Z

Sounds that it is currently pretty broken.

What about changing the managed member into a destroy handler which is initialized by the constructor?

Author: Chris Johns 2020-02-05T02:14:46.000Z

Replying to [Sebastian Huber](#):

Sounds that it is currently pretty broken.

There seems to be a few overlapping issues that make things a little confusing.

What about changing the managed member into a destroy handler which is initialized by the constructor?

Yes, my patch I am testing does this. I have an issue on 4.11 where a printf line in changes what happens and I am not sure why. I need to resolve this. I will then create a 4.11 clone of this ticket and post a patch for that branch.

Author: Chris Johns 2020-02-10T21:59:43.000Z

Replying to [Chris Johns](#):

I have an issue on 4.11 where a printf line in changes what happens and I am not sure why. I need to resolve this. I will then create a 4.11 clone of this ticket and post a patch for that branch.

I have chased the issue down to how we set up the re-entrant struct newlib uses in our threads. My changes follow what exists ...

```
1 FILE *input = fopen(shell_env->input, "r");
2 if (input == NULL)
3 error(...);
4 stdin = input;
```

The only calls on stdin before the assignment are fileno(stdin) and this does not touch the re-entrant struct so the first call to libc after the assignment is setvbuf(stdout, NULL, _IONBF, 0); and newlib performs it's lazy initialisation and resets the re-entrant struct.

This issue is present on 4.11 and 5 as far as I can see.

Author: Chris Johns 2020-02-17T04:51:50.000Z

It is not easy making a joel test because of the way we have used the linker mapped printf to printk.

Author: Trac Migrate 2020-02-17T06:42:57.000Z

Only printf(), puts(), and putchar() are wrapped. The shell related code should use fprintf() etc. Using printf() would be a bug.

Author: Chris Johns 2020-02-17T20:51:46.000Z

A test is not easy as a shell test cannot use any standard commands, eg echo because these call printf. The post test patch provides a command that uses fprintf and this works enough to test the shell start, main loop, and input and output support.

Author: Trac Migrate 2020-02-18T06:06:14.000Z

It is a bug that the echo command uses putchar(). It should use fputc(c, stdout).

Author: Chris Johns 2020-02-18T06:55:17.000Z

Replying to [Sebastian Huber](#):

It is a bug that the echo command uses putchar(). It should use fputc(c, stdout).

Could you please explain why?

Other commands like ls use printf.

Author: Trac Migrate 2020-02-18T07:02:47.000Z

Every shell related code which uses printf(), puts(), putchar(), etc. which work on file descriptors is broken. The file descriptors are global. Only the stdin, stdout, and stderr file pointers are thread-specific.

Author: Chris Johns 2020-02-18T07:09:20.000Z

But ls works nicely with telnet, actually all commands I know of work well with the redirection we implement. I am sorry you have lost here with your bug comment.

My comments relate to our test suite and the hack we have to switch printf via the linker to keep the tests as small as possible.

Author: Trac Migrate 2020-02-18T07:27:06.000Z

Sorry for the confusion. I checked the Newlib code and it actually uses stdout for printf(). I thought it uses directly a file descriptor, but this is not the case. I vaguely remember that Ralf changed some printf() to fprintf(stdout, ...) for whatever reason.

Author: Chris Johns 2020-04-09T00:21:41.000Z

I have found the default command handler in libbsd needs updating ...

<https://git.rtems.org/rtems-libbsd/tree/rtemsbsd/telnetd/telnetd-service.c#n72>

The input and output fields needs have strings. I will change the shell's handling of NULL to reference the parent descriptors to catch user's code.

Author: Trac Migrate 2020-04-14T22:30:49.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d007cc2ceef48ce47c157512370c1bf2c45596f3/rtems"d007cc2/rtems]:

```

1 libmisc/shell: Fix the handling of joel scripts in telnet
2
3 - Fix the passing of std[in/out] to child threads
4 - Fix deleting of managed memory in the key destructor
5 - Only set the key in the main loop thread
6 - Only allocate a shell env outside of the main loop
7 - Fix memory leak if the task start fails
8 - Remove error level from shell env, it cannot be returned this way. Add
9 exit_code but the API is broken so it cannot be returned.
10
11 Closes #3859

```

Author: Trac Migrate 2020-08-06T06:47:29.000Z

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

The telnet shell

```

1 static void
2 telnet_shell(char *name, void *arg)
3 {
4     rtems_shell_env_t env;
5
6     memset(&env, 0, sizeof(env));
7
8     env.devname = name;
9     env.taskname = "TLNT";
10    env.login_check = NULL;
11    env.forever = false;
12
13    rtems_shell_main_loop(&env);
14 }

```

used in the libbsd test code is now broken:

```

1 telnet 169.254.140.254
2 Trying 169.254.140.254...
3 Connected to 169.254.140.254.

```

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```

4 Escape character is '^]'.
5 invalid shell environment passed to the main loop)
6 Connection closed by foreign host.

```

How should the code be instead?

Author: Trac Migrate 2020-08-06T06:51:07.000Z

There should be an advice in the migration section in the user manual.

Author: Chris Johns 2020-08-06T10:42:21.000Z

The example code provided is broken and has always been broken. I only know it exists because libbsd had it. The ticket describes the situation and item 7) in the list says how it is to be resolved and that interface has always been there for just this situation.

Please unblock this ticket. Thanks.

Author: Trac Migrate 2020-08-06T11:17:13.000Z

I have to fix the code in libbsd. This code was also copied to applications which are now also broken. This is definitely something for the migration section.

Author: Chris Johns 2020-08-06T11:51:15.000Z

Thanks and yes something should be added. I will take a look.

Author: Trac Migrate 2020-08-06T11:58:17.000Z

Replying to [Chris Johns](#):

Thanks and yes something should be added. I will take a look.

<https://lists.rtems.org/pipermail/devel/2020-August/061166.html>

I already fixed libbsd (the commits don't show up in the tickets).

Author: Trac Migrate 2020-08-06T17:22:46.000Z

The proposed fix doesn't work. If you close a telnet session and try to connect again the target crashes with a NULL pointer access:

```

1 #0  fileno (f=0x0) at ../../../../../../gnu-mirror-gcc-c72a1b6/
  ↪newlib/libc/stdio/fileno.c:69
2 #1  0x0042e866 in rtems_shell_main_loop (shell_env=0x0) at ../../../../

```

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```

↪cpukit/libmisc/shell/shell.c:910
3 #2  0x00104880 in telnet_shell (name=0x774600 "/dev/pty4", arg=0x0) at .
↪./../testsuite/media01/test_main.c:133
4 #3  0x004113e8 in telnetd_session_task (arg=7816628) at ../../../cpukit/
↪telnetd/telnetd.c:179
5 #4  0x00425f78 in _Thread_Handler () at ../../../cpukit/score/src/
↪threadhandler.c:143

```

Author: Trac Migrate 2020-08-07T07:10:16.000Z

The following change fixes the NULL pointer access:

```

1 diff --git a/cpukit/libmisc/shell/shell.c b/cpukit/libmisc/shell/shell.c
2 index 0b06e8b4d1..72aeb23c43 100644
3 --- a/cpukit/libmisc/shell/shell.c
4 +++ b/cpukit/libmisc/shell/shell.c
5 @@ -234,12 +234,6 @@ static void rtems_shell_clear_shell_env(void)
6  eno = pthread_setspecific(rtems_shell_current_env_key, NULL);
7  if (eno != 0)
8  rtems_error(0, "pthread_setspecific(shell_current_env_key): clear");
9  -
10 - /*
11 -  * Clear stdin and stdout file pointers of they will be closed
12 -  */
13 - stdin = NULL;
14 - stdout = NULL;
15  }
16
17  /*

```

What is the purpose of this code?

Author: Chris Johns 2020-08-07T07:18:44.000Z

A thread instance that inherits the std* file handles does not close them, for example a joel script would close the parents session's handles.

Author: Trac Migrate 2020-08-07T07:25:05.000Z

Setting the stdin and stdout to NULL pointers doesn't look like a good idea to me. I still don't understand what you want to do with this. Which code reads the stdin and stdout pointers and checks them for NULL?

Author: Chris Johns 2020-08-07T07:28:25.000Z

Nothing more than what was in the code before .. <https://git.rtems.org/rtems/tree/>

[cpukit/libmisc/shell/shell.c#h=4.11#n242](https://github.com/rtems/cpukit/blob/master/libmisc/shell/shell.c#h=4.11#n242) Something else must have changed. I had tested it on RTEMS 5.

Author: Trac Migrate 2020-08-07T07:31:24.000Z

I have this problem on the RTEMS 5 branch using RTEMS 5 tools.

Author: Chris Johns 2020-08-07T07:33:38.000Z

Yes I am seeing it as well. I am a little confused.

I am not sure why the closing of a previous session would effect a new session as the parent (telnetd) should be handling this. The new session should have a new set of std* handles?

Author: Trac Migrate 2020-08-07T07:42:18.000Z

For my taste the shell code tinkers too much with the std* handles. I lost track who is responsible for set up and tear down. What is the purpose of the

```
1 FILE *parent_stdin;
2 FILE *parent_stdout;
3 FILE *parent_stderr;
```

Who is the parent?

Author: Chris Johns 2020-08-07T07:49:21.000Z

I have a pretty good handle (hah pun intended) on these handles. I will try and take a look.

The parent handles are the wrapper of the shell env. For example they are global handles for a console shell. With telnetd they are the session handles. If you run a joel script they are ones used:

```
1 [/] # cat j
2 #! joel
3 ls -las /
4 cat /j
5 [/] # ./j
6 total 6
7 0 drwxr-xr-x  1 root  root   6160 Jan  1  1988 dev
8 0 drwxr-xr-x  1 root  root   2240 Jan  1  1988 etc
9 0 -rwxrwxrwx  1 root  root    31 Jan  1  1988 j
10 1 drwx--x--x  3 root  root    512 Jan  1  1988 ram
11 0 drwxr-xr-x  1 root  root     0 Jan  1  1988 tmp
12 0 drwxr-xr-x  1 root  root    280 Jan  1  1988 var
13 #! joel
```

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```

14 ls -las /
15 cat /j

```

The threads that run the joel script inherit the telnet session handlers.

Author: Chris Johns 2020-08-08T07:45:29.000Z

I have looked into the issue and the reuse of the telnetd session thread is clashing with the way the shell's environment is currently being cleaned up. The telnetd software creates a number of sessions and it reuses these sessions for the incoming connections. This means the pty file handles assigned to each session are reused. Clearing these file handles corrupts the telnetd session.

Setting of stdin, stdout and also stderr to NULL when cleaning up a shell environment is important because thread termination closes those files if present and open and if the file pointers have been inherited from the parent thread the parent can be left without a valid stdin, stdout and stderr. This happens with a joel script. It could also happen with a command that is placed in the background (if we supported this) or a command that dispatches a worker thread.

This ticket was originally about a bug where joel script output was not redirected to the parent thread's stdout. They happened to work for the console because the console shell's standard handles are the global ones. A new thread inherits the global handles and the clean up also manages the closing of those, or the lack of it. However a joel script with telnet was broken.

The solution is to move the setting of stdin, stdout and stderr out of clearing the environment and to only do this when the rtems_shell_task exits the rtems_shell_main_loop.

For the record a debug trace from shell.c running a joel script is:

```

1 shell[0a010001]: run: env: 0x62accd0
2 shell[0a010001]: run out: 1 (0xbeb028)
3 shell[0a010001]: run in: 0 (0xbeafa8)
4 shell[0a01001c]: env: 0x62accd0
5 shell[0a01001c]: child out: 1 (0xbeb028)
6 shell[0a01001c]: child in: 0 (0xbeafa8)
7 shell[0a010017]: dup: global: copy: 0x2f5d1b8 out: 166 (0x2f02738) in: ↵
  ↵165 (0x2f026b8)
8 shell[0a010017]: env: 0x2f5d1b8
9 shell[0a010017]: child out: 166 (0x2f02738)
10 shell[0a010017]: child in: 165 (0x2f026b8)
11 shell[0a010017]: script: in: /j out: stdout
12 shell[0a010017]: run: env: 0x63558a8
13 shell[0a010017]: run out: 166 (0x2f02738)
14 shell[0a010017]: run in: 165 (0x2f026b8)
15 shell[0a01001d]: env: 0x63558a8
16 shell[0a01001d]: child out: 166 (0x2f02738)
17 shell[0a01001d]: child in: 35 (0x629b260)
18 shell[0a01001d]: end: 0 0

```

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```

19 shell[0a01001d]: child in-to-close: 0x629b260
20 shell[0a01001d]: child out-to-close: 0
21 shell[0a010017]: run: end: sc:0 ec:0
22 shell[0a010017]: script: end: 0
23 shell[0a010017]: end: 0 0
24 shell[0a010017]: child in-to-close: 0
25 shell[0a010017]: child out-to-close: 0

```

Author: Trac Migrate 2020-08-10T05:13:42.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

In [changeset:"95036a45914c6d0bb93f73c4f18f12d87a334293/rtems" 95036a45/rtems]:

```

1 shell: Only clear std handles when the shell task exits
2
3 Clearing the std file handles when the main loop exited crashes
4 telnetd as it reuses its session threads.
5
6 Closes #3859

```

Author: Trac Migrate 2020-08-10T09:47:45.000Z

In [changeset:"cb4358c9b16289d938f41d04a71dfaddb9716b0e/rtems-docs" cb4358c/rtems-docs]:

```

1 user: Add shell environment migration aid
2
3 Update #3859.

```

Author: Trac Migrate 2020-08-13T09:38:54.000Z

In [changeset:"49f7e05dbd0f7eb548f05211b8f04e8c8fdac823/rtems-docs" 49f7e05/rtems-docs]:

```

1 user: Fix format
2
3 Update #3859.

```

Author: Gedare Bloom 2025-06-10T15:03:09.152Z

changed the description

Author: Gedare Bloom 2025-06-10T15:03:22.095Z

mentioned in issue [#3877](#)

4.2.1.120 3826 - top on SMP shows invalid priorities

Id	3826
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2019-11-24T23:26:08.000Z
Updated	2025-06-10T15:03:07.851Z
Milestone	5.1
Labels	cpukit::shell, priority::normal, resolution::duplicate, rtems::shell, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3826
Merges	0

Running top on a Zynq zc706 gives ...

1	ID	NAME	RPRI	CPRI	TIME	TOTAL
2	↪ CURRENT					
3	0x0a010008	IRQS	4611686018427388000	4611686018427388000		
	↪ 2.437559		0.000	0.022		

The code in question is ... <https://git.rtems.org/rtems/tree/cpukit/libmisc/cpuuse/cpuusagetop.c#n447>

What is best API to show a priority that makes this code robust?

Author: Joel Sherrill 2019-11-24T23:54:50.000Z

What do you mean by robust?

It is showing score priority so that is clearly confusing for POSIX threads. But a mixed system is also co fusing.

Author: Chris Johns 2019-11-25T00:04:38.000Z

Replying to [Joel Sherrill](#):

What do you mean by robust?

One that returns “a” priority we can document and is not effected by implementation changes.

It is showing score priority so that is clearly confusing for POSIX threads. But a mixed system is also confusing.

Yes but that I feel that is a property of top's implementation. For example we could add options to show the score view or we show API priorities etc.

Author: Trac Migrate 2019-11-25T06:39:23.000Z

It shows the correct score priority. If you want to show priorities mapped to a specific API, then you have to add this on top of it.

Author: Chris Johns 2019-12-12T17:57:14.000Z

The code is <https://git.rtems.org/rtems/tree/cpukit/libmisc/cpuuse/cpuusagetop.c#n451>.

It seems `_Thread_Get_unmapped_real_priority` is not clearing the new extra bits used in the priority.

Author: Trac Migrate 2019-12-12T18:57:51.000Z

The `Priority_Control` contains 64 bits. The least significant bit is used to indicate if the priority is appended or prepended to its priority group. This bit is removed by the `_Thread_Get_unmapped_real_priority()`. The other 63 bits are defined by a particular scheduler algorithm. The only invariant is the lower values indicate a higher priority (importance).

Author: Chris Johns 2019-12-12T21:03:19.000Z

How do we take that value and get the actual priority?

Author: Chris Johns 2019-12-12T21:55:00.000Z

- **Resolution** set to ~"duplicate"
- **Status** changed from *new* to *closed*

Duplicate of [#3552](#).

Author: Gedare Bloom 2025-06-10T15:03:08.595Z

changed the description

4.2.1.121 3720 - mfill shell command uses the wrong arguments for the memset()

Id	3720
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-03-08T06:38:41.000Z
Updated	2025-06-10T15:03:07.299Z
Milestone	5.1
Labels	cpukit::shell, priority::normal, resolution::fixed, rtems::shell, ticket-type::defect, version::4.9
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3720
Merges	0

Original author: sebastian.huber

Author: Trac Migrate 2019-03-08T06:40:08.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”2e8a66d13f04015c0024a084578f720ceb15ea00/rtems”
2e8a66d/rtems]:

1 shell: Correct argument order of `mfill`

2

3 Close #3720.

Author: Amar Takhar 2024-10-18T01:07:01.397Z

mentioned in issue [#3722](#)

Author: Gedare Bloom 2025-06-10T15:03:04.825Z

mentioned in issue [#3723](#)

Author: Gedare Bloom 2025-06-10T15:03:07.410Z

changed the description

4.2.1.122 3552 - cpu usage error in SMP mode

Id	3552
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2018-10-17T05:38:26.000Z
Updated	2025-06-10T15:03:06.653Z
Milestone	5.1
Labels	cpukit::shell, priority::normal, resolution::fixed, rtems::shell, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3552
Merges	0

Original author: jameszxj

- CPU load display error in SMP mode

Load Average: 100.510% Load: 100.966% Idle: 99.033%

In fact,CPU is doing nothing.

- priority display unreadable in SMP mode

in different Schedulers priority is map to a core priority, I think unmap maybe reasonable when display the information

I create a patch about this,see the attachment.

- [cpuusagetop.patch](#)

Author: Trac Migrate 2018-10-17T05:38:48.000Z

Original author: jameszxj

- **Attachment** [cpuusagetop.patch](#) added

Author: Chris Johns 2018-10-19T00:11:38.000Z

Original author: jameszxj

- **Owner** set to @chrisj
- **Status** changed from *new* to *accepted*

Author: Trac Migrate 2019-12-19T13:21:22.000Z

Original author: jameszxj

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"c737748bb1a5de04b0f7abdb526fc91d8835b546/rtems" c737748b/rtems]:

```

1 libmisc/top: Fix the idle time and priorities on SMP
2
3 - This patch is based on the patch attached to #3552 submitted
4 by jameszxj.
5
6 Closes #3552

```

Author: Gedare Bloom 2025-06-10T15:03:06.754Z

changed the description

4.2.1.123 3096 - Shell internal commands should be public.

Id	3096
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-08-13T06:00:41.000Z
Updated	2025-06-10T15:03:01.435Z
Milestone	5.1
Labels	cpukit::shell, priority::normal, resolution::fixed, rtems::shell, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3096
Merges	0

A few of the functions held in `cpukit/libmisc/shell/internal.h` are useful in building system. For example `rtems_shell_register_monitor_commands()` and `rtems_shell_execute_cmd()`.

The shell commands are important and systems may provide other scripting mechanisms, for example sequences in YAML files. Providing public access lets users know the functions are supported.

Author: Joel Sherrill 2017-08-13T15:45:14.000Z

Hard to argue against. The shell evolved and this is just an artifact. We now have a different opinion. Change it.

Author: Chris Johns 2017-08-13T23:23:14.000Z

I have found there is currently no way to have the commands registered unless you start a shell. The POSIX once call used to add the shell's configured commands is buried inside the main loop of the shell task.

I would like this change to be back ported to 4.11 to make applications compatible between 4.11 and 4.12 and beyond.

Author: Trac Migrate 2017-08-15T01:38:26.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”2465c0130b861c013afa44145e7d2019f05f2bc0/rtems”
2465c01/rtems]:

```
1 libmisc/shell: Make some internal shell functions public.
2
3 - Add 'rtems_shell_init_environment()' so a user can create the
4 shell environment without needing to run a shell.
5 - Move 'rtems_shell_lookup_topic', 'rtems_shell_can_see_cmd',
6 and 'rtems_shell_execute_cmd' from the internal interface to
7 the public interface.
8
9 Closes #3096.
```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:47.943Z

changed the description

Author: Gedare Bloom 2025-06-10T15:03:05.599Z

mentioned in issue [#3104](#)

4.2.1.124 3088 - shell test in testsuitessamplesfileio many COMMANDs is Lost

Id	3088
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-08-02T02:01:06.000Z
Updated	2025-06-10T15:03:01.000Z
Milestone	5.1
Labels	cpukit::shell, priority::normal, resolution::fixed, rtems::shell, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3088
Merges	0

Original author: likangbei

testsuitessamplesfileio test on atsam BSPinit.c

define CONFIGURE_SHELL_COMMANDS_INIT

define CONFIGURE_SHELL_COMMANDS_ALL

but when press s -> start shellI only find three COMMANDshelpaliastimeOther COMMANDs is
LostI remember that the previous version was normal

Sorry My English is bad

Author: Joel Sherrill 2017-08-03T03:19:22.000Z

Original author: likangbei

The set of available commands depends on what user you login as. Try root for more commands.

Author: Chris Johns 2017-08-14T00:58:35.000Z

Original author: likangbei

- **Milestone** set to %"4.12.0"

Author: Trac Migrate 2017-08-24T06:44:47.000Z

Original author: likangbei

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"80a13ec48d7071e203131d4581219acc7de4768b/rtems"
80a13ec4/rtems]:

```
1 samples/fileio: Give command availability hint
2
3 Close #3088.
```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: likangbei

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:47.521Z

changed the description

4.2.1.125 3675 - RSB: Change default prefix to OS prefix + “rtems” + \$rtems_version

Id	3675
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-01-17T10:34:17.000Z
Updated	2024-10-18T01:07:01.213Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::enhancement, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3675
Merges	0

Original author: sebastian.huber

The user manual contains this about prefixes:

“A further reason not to use the standard prefix is to allow more than one version of RTEMS to exist on your host machine at a time. The autoconf and automake tools required by RTEMS are not versioned and vary between the various versions of RTEMS. If you use a single prefix such as the standard prefix there is a chance parts from a package of different versions may interact. This should not happen but it can.

For POSIX or Unix hosts, the RTEMS Project uses /opt/rtems as it’s standard prefix. We view this prefix as a production level path, and we prefer to place development versions under a different prefix away from the production versions. Under this top level prefix we place the various versions we need for development. For example the version 4.11.0 prefix would be /opt/rtems/4.11.0. If an update called 4.11.1 is released the prefix would be /opt/rtems/4.11.1. These are recommendations and the choice of what you use is entirely yours. You may decide to have a single path for all RTEMS 4.11 releases of /opt/rtems/4.11.”

The default prefix selected by the RSB should take this into account. Use OS prefix + “rtems” + \$rtems_version, e.g. on Linux for RTEMS 5: “/opt/rtems/5”.

Author: Trac Migrate 2019-01-17T10:34:30.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*

Author: Trac Migrate 2019-01-22T08:57:44.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *accepted* to *closed*

In [changeset:"d523d4c9d6521fc2786d1f30f8a7075932c79547/rtems-source-builder" d523d4c/rtems-source-builder]:

```
1 sb: Change default prefix
2
3 Use OS prefix + "rtems" + $rtems_version as the default prefix to
4 automatically separate different RTEMS versions.
5
6 Close #3675.
```

Author: Trac Migrate 2019-02-18T13:42:25.000Z

Original author: sebastian.huber

In [changeset:"eae5454288e66a08e54ade1e3ad3bb74a85ccf42/rtems-docs" eae5454/rtems-docs]:

```
1 user: Rework Prefixes section
2
3 Rename it to "Choose an Installation Prefix".
4
5 Update #3675.
```

Author: Amar Takhar 2024-10-18T01:07:01.182Z

mentioned in issue [#3679](#)

4.2.1.126 2694 - linking issue for htonl, etc when using -std=c99

Id	2694
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2016-04-15T15:17:18.000Z
Updated	2024-06-09T07:30:59.288Z
Milestone	5.1
Labels	network::legacy, priority::low, priority::normal, resolution::worksforme, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2694
Merges	0

When -std=c99 is on the compile line, there is a linking error for undefined references to __htonl, __htons, __ntohl, and __ntohs. This test case is just for htonl but others should be similar.

This likely impacts the 4.11 branch of rtems-libbsd as well but I was testing on master.

Test case

```

1 #include <arpa/inet.h>
2
3 int main(
4 int argc,
5 char **argv
6 )
7 {
8 uint32_t v = (uint32_t) argc;
9 uint32_t rc = htonl(v);
10 return v;
11 }

```

This script was what I used to find what caused the linking error to go away.

```

1 RTEMS_MAKEFILE_PATH=/home/joel/rtems-4.11-work/tools/4.12/i386-rtems4.12/pc586/
2
3 i386-rtems4.12-gcc -std=c99 \
4 -B${RTEMS_MAKEFILE_PATH}/lib -specs bsp_specs -qrtems \
5 -D_XOPEN_SOURCE=600 -D__USE_SVID main.c -lbsd -lm -lbsd
6
7 i386-rtems4.12-gcc -std=c99 \
8 -B${RTEMS_MAKEFILE_PATH}/lib -specs bsp_specs -qrtems \
9 -D__USE_SVID main.c -lbsd -lm -lbsd
10
11 i386-rtems4.12-gcc -std=c99 \
12 -B${RTEMS_MAKEFILE_PATH}/lib -specs bsp_specs -qrtems \
13 main.c -lbsd -lm -lbsd
14
15 i386-rtems4.12-gcc \
16 -B${RTEMS_MAKEFILE_PATH}/lib -specs bsp_specs -qrtems \
17 main.c -lbsd -lm -lbsd

```

Author: Trac Migrate 2016-12-23T14:10:53.000Z

- **Priority** changed from ~"normal" to ~"low"

Author: Trac Migrate 2017-01-23T07:34:47.000Z

I cannot reproduce this problem on the master.

Author: Joel Sherrill 2017-01-23T15:42:57.000Z

- **Resolution** set to ~"worksforme"
- **Status** changed from *new* to *closed*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate	2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Chris Johns	2024-06-09T07:30:59.384Z

changed the description

4.2.1.127 3794 - Initial POSIX Signals Mask Incorrect

Id	3794
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2019-09-10T17:53:23.000Z
Updated	2024-06-08T05:20:34.099Z
Milestone	5.1
Labels	api::posix, posix, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3794
Merges	0

RTEMS initial signal mask for the “process” does not match the behavior of Linux, FreeBSD, and Cygwin.

There are some subtle rules which need to be followed for the value of the created thread’s signal mask. Because signals are part of C99 and enhanced by POSIX, both Classic API tasks and POSIX threads have to have them enabled.

1. Internal system threads should have no signals enabled. They have no business executing user signal handlers – especially IDLE.
2. The initial signal mask for other threads needs to follow the implication of a pure C99 environment which only has the methods `raise()` and `signal()`. This implies that all signals are unmasked until the thread explicitly uses a POSIX methods to block some. This applies to both Classic tasks and POSIX threads created as initalization tasks/threads (e.g. before the system is up).
3. After the initial threads are created, the signal mask should be inherited from the creator. This can be done based on system state.

RTEMS behavior was incorrect by blocking all signals initially and for Classic API tasks.

Notes:

- The default signal mask does not matter for any application that does not use POSIX signals.

- It is assumed that Classic API tasks should provide a compliant C run-time environment. Hence the default signal mask state matters.

Impact on Applications and Tests

In general, an application should always explicitly block or unmask any signals that it intends to process. If there is concern about which thread may process it, then it should be blocked in all threads that are not intended to process it. The following code can be used to block all signals. This method can be used in the initialization task/thread to mimic historical behavior:

```

1 static void block_all_signals(void)
2 {
3     int          sc;
4     sigset_t      mask;
5
6     sc = sigfillset( &mask );
7     // check sc == 0
8
9     sc = pthread_sigmask( SIG_BLOCK, &mask, NULL );
10    // check sc == 0
11 }

```

Author: Trac Migrate 2019-09-25T19:52:37.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"8798372261ed1df999bc9f4f3f0be0a230480041/rtems" 8798372/rtems]:

```

1 Correct initial POSIX signals mask
2
3 + Modify POSIX thread create extension to ensure expected
4 initial signal mask is provided to system threads, initial
5 tasks and threads, and inherited by tasks and threads.
6 + Adds psxsignal07 to verify functionality when using a POSIX
7 Initialization thread and POSIX threads.
8 + Adds psxsignal08 to verify functionality when using a Classic API
9 Initialization task and Classic API tasks.
10
11 Closes #3794.

```

Author: Trac Migrate 2019-10-01T07:16:54.000Z

In [changeset:"aeb981ea1b8ecd67b4163bd3f6aab35bf8ad8d8e/rtems" aeb981e/rtems]:

```
1 psxtests/psxualarm: Fix test failure
2
3 Update #3794.
```

Author: Amar Takhar 2024-04-25T20:47:27.118Z

changed the description

Author: Chris Johns 2024-06-08T05:20:34.159Z

changed the description

4.2.1.128 3770 - RSB 3rd party packages failing to build

Id	3770
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2019-07-21T22:40:55.000Z
Updated	2024-04-26T01:34:53.017Z
Milestone	5.1
Labels	priority::normal, resolution::wontfix, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3770
Merges	0

The following packages do not build or have issues and will be removed if they are not updated:

1. ntp 1. microwindows 1. nxlib 1. lwip

The lwip patch used by this package needs to be updated. The install target for the Makefile does not support DESTDIR and cannot be staged. It is being built however a lack of DESTDIR is not compatible with the requirements of the RSB for staged builds. The package installs directly to the prefix which is not suppose to happen.

The packages will need to be fixed or removed before 5.1. There is no point releasing the RSB with packages that are broken.

Author: Chris Johns 2019-12-12T17:05:47.000Z

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

I am going to close this ticket and these packages will not be available with the RSB. With no RSB support I do not know who builds these packages and if they are valid?

Author: Amar Takhar 2024-04-26T01:34:52.135Z

mentioned in issue [rtems/programs/gsoc#44](#)

4.2.1.129 2468 - Add Thread Local Storage (TLS) support on x86

Id	2468
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2015-11-13T15:16:53.000Z
Updated	2024-04-26T01:25:56.983Z
Milestone	5.1
Labels	arch:i386, cpukit, priority::normal, resolution::fixed, rtems::score, ticket-type::defect, version::4.12
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2468
Merges	0

The x86 is one of the architectures which does not support Thread Local Storage. Each architecture requires target architecture specific support to provide this standard language feature.

Details on the implementation by the compiler may be found at http://wiki.osdev.org/Thread_Local_Storage.

Based on this information, I think a segment register needs to be added to the thread context and some hooks to the TLS implemented.

Architecture information on TLS implementation should be added to the CPU Supplement document as this is part of the ABI and context switch.

As part of effort, the documentation for the general procedure of adding target specific TLS support should be added to the porting guide or reviewed.

Author: Trac Migrate 2015-11-16T06:36:48.000Z

For documentation see for example:

https://docs.rtems.org/doc-current/share/rtems/html/cpu_supplement/Port-Specific-Information-Thread_002dLocal-Storage.html#Port-Specific-Information-Thread_002dLocal-Storage

Author: Trac Migrate 2017-02-15T14:20:42.000Z

- **Milestone** changed from %”4.12” to %”Indefinite”
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-06-12T09:07:42.000Z

In `[changeset:”cb0d9a0747b1be84fb669b1c71e55bf0d860d2f8/rtems”cb0d9a0/rtems]:`

```

1 i386: Move _CPU_Context_Initialize()
2
3 Update #2468.

```

Author: Trac Migrate 2017-06-12T09:08:08.000Z

In [changeset:"7b0c74ffb085656d67554102857224223ee03f88/rtems" 7b0c74ff/rtems]:

```

1 i386: Support thread-local storage (TLS)
2
3 Update #2468.

```

Author: Trac Migrate 2017-06-12T09:10:26.000Z

- **Milestone** changed from %"Indefinite" to %"4.12.0"
- **Owner** set to sebastian.huber
- **Status** changed from *assigned* to *accepted*
- **Version** ~"4.12" deleted

Author: Trac Migrate 2017-06-12T09:10:43.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"44c9e330bf3e7d79aa79689e296bda275cf4d22f/rtems-docs" 44c9e33/rtems-docs]:

```

1 cpu-supplement: Update TLS support status
2
3 Close #2468.

```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-26T01:25:56.080Z

mentioned in issue rtems/programs/gsoc#8

4.2.1.130 3057 - Add a workaround for the LEON3FT store-store errata

Id	3057
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-07-03T05:25:06.000Z
Updated	2024-04-25T20:48:23.283Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::gcc
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3057
Merges	0

Original author: sebastian.huber

GCC needs support to provide a workaround for the LEON3FT store-store errata, e.g.

<https://gcc.gnu.org/ml/gcc-patches/2017-06/msg01577.html>

and follow up versions.

- [0001-config-sparc-sparc.opt-mfix-ut700-New-option.patch](#)

Author: Trac Migrate 2017-07-12T09:19:20.000Z

Original author: sebastian.huber

Something was added to GCC 7 branch:

<https://gcc.gnu.org/viewcvs/gcc?view=revision&revision=250121>

Fix is incomplete.

Author: Trac Migrate 2017-07-17T05:42:46.000Z

Original author: sebastian.huber

In `[changeset:"2f8704b6c8c3ce65cdf2b589a98de1d1d9dc8ffa/rtems" 2f8704b6/rtems]`:

```

1 sparc: Add assembly workaround for LEON3FT B2BST errata
2
3 This patch adds NOP instructions to prevent instruction sequences
4 that are sensitive to the LEON3FT B2BST errata. See GRLIB-TN-0009:
5 "LEON3FT Stale Cache Entry After Store with Data Tag Parity Error"
6 for more information.
7
8 The sequences are only modified if __FIX_LEON3FT_B2BST is defined.
9
10 The patch works in conjunction with the -mfix-ut700, -mfix-gr712rc,
11 and -mfix-ut699 GCC flags that prevents the sensitive sequences from

```

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12 **being** generated.
 13
 14 Update [#3057](#).

Author: Trac Migrate 2017-07-17T05:45:23.000Z

Original author: sebastian.huber

In [changeset:"4debaca6d2d6248f97bf3fbbd39a8afca0ab4beb/rtems" 4debaca6/rtems]:

1 bsp/sparc: Add leon3 BSP variants
 2
 3 Rename NGMP to GR740 **and** add configs **for** UT699, UT700, **and** GR712RC
 4
 5 The UT699 requires -mcpu=leon **as** it does **not** support the CAS instruction
 6 provided by -mcpu=leon3. It also requires -mfix-ut699 **for** errata fixes.
 7
 8 UT700 **and** GR712RC requires the -mfix-ut700 **and** -mfix-gr712rc flags that
 9 have been recently added to GCC's **master and 7-branch**.
 10
 11 Remove -msoft-float **from the** leon3 config to make the more common case
 12 of using the FPU the default.
 13
 14 Update [#3057](#).

Author: Trac Migrate 2017-07-17T05:51:39.000Z

Original author: sebastian.huber

- **Attachment** [0001-config-sparc-sparc.opt-mfix-ut700-New-option.patch](#) added

Author: Trac Migrate 2017-07-17T06:31:35.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"e2952bb185c1f40027caa76cfd9e4a45b17a8886/rtems-source-builder" e2952bb/rtems-source-builder]:

1 **4.12:** Add LEON3FT store-store errata workaround
 2
 3 Close [#3057](#).

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Amar Takhar2024-04-25T20:48:23.262Z

mentioned in issue [#4154](#)

4.2.1.131 4005 - Remove RTEMS_MP_NOT_CONFIGURED error condition

Id	4005
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-06-16T05:07:49.000Z
Updated	2024-04-25T20:48:16.198Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4005
Merges	0

Original author: sebastian.huber

Some objects can be created with a local or global scope in a multiprocessing network. In non-multiprocessing configurations setting the scope to local or global had no effect since such a system can be viewed as a multiprocessing system with just one node. One and all nodes is the same in such a system. However, if multiprocessing was configured, creation of a global object in a single node system resulted in an RTEMS_MP_NOT_CONFIGURED error. Remove this error condition for symmetry with the non-multiprocessing setup. This is in line with the task affinity behaviour in SMP systems.

Author: Trac Migrate2020-06-18T05:10:06.000Z

Original author: sebastian.huber

In [changeset:"46c23871813618e7a16050068041b3d33551cd0d/rtems"46c23871/rtems]:

```
1 rtems: Remove RTEMS_MP_NOT_CONFIGURED error
2
3 Some objects can be created with a local or global scope in a
4 multiprocessing network. In non-multiprocessing configurations setting
5 the scope to local or global had no effect since such a system can be
6 viewed as a multiprocessing network with just one node. One and all
7 nodes is the same in such a network. However, if multiprocessing was
8 configured, creation of a global object in a single node network
```

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```

9 resulted in an RTEMS_MP_NOT_CONFIGURED error. Remove this error
10 condition for symmetry to the non-multiprocessing setup. This is in line
11 with the task affinity behaviour in SMP systems.
12
13 Update #4005.

```

Author: Trac Migrate 2020-06-18T05:13:36.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1b2468c5c6bfa6c893287b6918b2d88835f7a087/rtems-docs" 1b2468c/rtems-docs]:

```

1 c-user: Remove RTEMS_MP_NOT_CONFIGURED error
2
3 Some objects can be created with a local or global scope in a
4 multiprocessing network. In non-multiprocessing configurations setting
5 the scope to local or global had no effect since such a system can be
6 viewed as a multiprocessing network with just one node. One and all
7 nodes is the same in such a network. However, if multiprocessing was
8 configured, creation of a global object in a single node network
9 resulted in an RTEMS_MP_NOT_CONFIGURED error. Remove this error
10 condition for symmetry to the non-multiprocessing setup. This is in line
11 with the task affinity behaviour in SMP systems.
12
13 Close #4005.

```

Author: Amar Takhar 2024-04-25T20:48:16.237Z

changed the description

4.2.1.132 3973 - Add rtems_get_copyright_notice() and deprecate _Copyright_Notice

Id	3973
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-05-05T12:58:51.000Z
Updated	2024-04-25T20:48:09.207Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, tickettype::enhancement
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3973
Merges	0

Original author: sebastian.huber

Deprecate the use of `_Copyright_Notice` at API level and instead provide a new function `rtems_get_copyright_notice()`.

Author: Trac Migrate 2020-05-06T06:02:47.000Z

Original author: sebastian.huber

In [changeset:"1af8e45bb7149f72b932a4453dc1a699477ff00f/rtems"1af8e45b/rtems]:

```
1 rtems: Add rtems_get_copyright_notice()
2
3 Update #3973.
```

Author: Trac Migrate 2020-05-06T06:02:50.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d30a352d4c89b0c7cde4b2da55894fccc2198791/rtems"d30a352/rtems]:

```
1 rtems: Deprecate _Copyright_Notice
2
3 Close #3973.
```

Author: Amar Takhar 2024-04-25T20:48:09.244Z

changed the description

4.2.1.133 3972 - Deprecate <rtems/system.h>

Id	3972
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-05-05T12:55:41.000Z
Updated	2024-04-25T20:48:08.783Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3972
Merges	0

Original author: sebastian.huber

This header file is included by <rtems.h> and contains only deprecated or internal content. Deprecate its use at API level.

Author: Trac Migrate2020-05-06T06:02:43.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”63274daf68a1b8633002687af15cd3afaacc8224/rtems”63274da/rtems]:

1 rtems: Deprecate <rtems/system.h>
2
3 Close #3972.

Author: Amar Takhar2024-04-25T20:48:08.821Z

changed the description

4.2.1.134 3971 - Deprecate use of RTEMS_MAXIMUM_NAME_LENGTH

Id	3971
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-05-05T12:46:30.000Z
Updated	2024-04-25T20:48:08.353Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3971
Merges	0

Original author: sebastian.huber

This define is unused and undocumented. It is available via <rtems.h>. Deprecate its use.

Author: Trac Migrate2020-05-06T06:02:40.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:"3d86d83c1ba3b5d17263f2920801aa13c1221869/rtems"3d86d83/rtems]:

1 rtems: Deprecate RTEMS_MAXIMUM_NAME_LENGTH

2

3 This define **is**

4

5 * **not** documented,

6

7 * **not** used **in** the RTEMS code base, **and**

8

9 * longer than sizeof(rtems_name).

10

11 Close #3971.

Author: Amar Takhar 2024-04-25T20:48:08.392Z

changed the description

4.2.1.135 3970 - Deprecate use _RTEMS_version at API level

Id	3970
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-05-05T12:34:08.000Z
Updated	2024-04-25T20:48:07.919Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3970
Merges	0

Original author: sebastian.huber

The global variable _RTEMS_version was declared via <rtems.h> and may be used directly by application code. Applications should use rtems_get_version_string() instead. Mark this variable as deprecated and move it to an internal header file in RTEMS 6.

Author: Trac Migrate 2020-05-06T06:02:33.000Z

Original author: sebastian.huber

In [changeset:"4b9b6ddb9f41356d85d5a056c6b9fafdf8529dc0/rtems"4b9b6dd/rtems]:

```
1 Use rtems_get_version_string()
2
3 Update #3970.
```

Author: Trac Migrate 2020-05-06T06:02:37.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”34b098edc5d89d3dd110baa42956105c8949b263/rtems”
34b098e/rtems]:

```
1 rtems: Deprecate use of _RTEMS_version
2
3 Close #3970.
```

Author: Amar Takhar 2024-04-25T20:48:07.957Z

changed the description

4.2.1.136 3953 - rtems_extensions_create() accepts a NULL pointer table

Id	3953
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-04-16T15:08:28.000Z
Updated	2024-04-25T20:48:04.860Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3953
Merges	0

Original author: sebastian.huber

It should return RTEMS_INVALID_ADDRESS instead.

Author: Trac Migrate 2020-04-17T17:51:28.000Z

Original author: sebastian.huber

In [changeset:”3d73642d9e341a4c65fb86a15d696686e7f28d6d/rtems”
3d73642/rtems]:

```
1 sapi: Add param check to rtems_extension_create()
2
3 Check that the extensions table is not NULL.  Change format.
4
5 Update #3953.
```

Author: Trac Migrate 2020-04-17T17:51:43.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”a19be8b748da337b86700664fba82f7b2ff9fbcf/rtems-docs”
a19be8b/rtems-docs]:

```
1 c-user: Document rtems_extension_create()
2
3 Close #3953.
```

Author: Amar Takhar 2024-04-25T20:48:04.897Z

changed the description

4.2.1.137 3907 - Update Getting Started Instructions

Id	3907
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2020-03-15T18:59:51.000Z
Updated	2024-04-25T20:47:55.226Z
Milestone	5.1
Labels	gsoc::small, priority::normal, resolution::fixed, tickettype::enhancement, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3907
Merges	0

<https://devel.rtems.org/wiki/GSoC/GettingStarted> reflects how SIS was used before it was split from GDB into a separate program.

Ensure this information is in the Users Guide as a Getting Started. We need a Getting Started task for student programs.

Discuss keeping the old instructions under a subheading for older versions.

This ticket can be closed when it is determined that the wiki page content is distributed and updated/removed properly

Author: Trac Migrate 2020-04-04T18:27:44.000Z

I have sent a patch for this. And the website has also been updated. Can you please close this ticket?

Author: Gedare Bloom 2020-04-04T19:36:21.000Z

- **Milestone** set to %”5.1”
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*
- **Version** set to ~”5”

Author: Amar Takhar 2024-04-25T20:47:55.267Z

changed the description

4.2.1.138 3901 - New template for configuration options with a value

Id	3901
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-03-06T15:27:25.000Z
Updated	2024-04-25T20:47:53.861Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3901
Merges	0

Original author: sebastian.huber

Change the documentation template for configuration options with a value to:

```
1 .. _CONFIGURE_XYZ:
2
3 CONFIGURE_XYZ
4 -----
5
6 CONSTANT:
7 ``CONFIGURE_XYZ``
8
9 OPTION TYPE:
10 This configuration option is an integer define.
11
```

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```

12 VALUE CONSTRAINTS:
13 The specified value must be greater than or equal to X and less than or
14 equal to Y.
15
16 DEFAULT VALUE:
17 The default value is Z.
18
19 DESCRIPTION:
20 This configuration option defines the ABC.
21
22 NOTES:
23 Notes for XYZ.

```

Use OPTION TYPE instead of DATA TYPE since we have to characterize the option and not just the value of an option. This is in line with [#3900](#).

Use VALUE RANGE instead of RANGE to be more specific.

Author: Trac Migrate 2020-03-27T11:54:18.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 Change the documentation template for configuration options with a
2 ↪ value to:
3 {{{
4 .. _CONFIGURE_XYZ:
5
6 CONFIGURE_XYZ
7 -----
8
9 CONSTANT:
10 ``CONFIGURE_XYZ``
11
12 OPTION TYPE:
13 This configuration option is an integer define.
14
15 - VALUE RANGE:
16 + VALUE CONSTRAINTS:
17 The specified value must be greater than or equal to X and less than or
18 equal to Y.
19
20 DEFAULT VALUE:
21 The default value is Z.
22
23 DESCRIPTION:
24 This configuration option defines the ABC.

```

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```
24
25 NOTES:
26 Notes for XYZ.
27 }}}
28 Use `OPTION TYPE` instead of `DATA TYPE` since we have to characterize
29 ↪ the option an not just the value of an option. This is in line with
30 ↪ #3900.
31
32 Use `VALUE RANGE` instead of `RANGE` to be more specific.
```

Author: Trac Migrate 2020-04-01T07:03:28.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”7bad8940ad05ea1e3b41745012a0dc5391275477/rtems-docs”
7bad894/rtems-docs]:

```
1 c-user: Use new template for integer config opts
2
3 Try to bring all descriptions up to date. Add cross-references to
4 several options. Clarify configuration value constraints.
5
6 Use this template also for initializer type options.
7
8 Close #3901.
```

Author: Amar Takhar 2024-04-25T20:47:53.914Z

changed the description

4.2.1.139 3900 - New template for boolean feature defines

Id	3900
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-03-06T15:16:53.000Z
Updated	2024-04-25T20:47:53.402Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3900
Merges	0

Original author: sebastian.huber

All boolean feature defines are undefined by default. The current template is a bit awkward. Change the application configuration option template for boolean feature defines to:

```

1 .. index:: CONFIGURE_XYZ
2
3 .. _CONFIGURE_XYZ:
4
5 CONFIGURE_XYZ
6 -----
7
8 CONSTANT:
9 ``CONFIGURE_XYZ``
10
11 OPTION TYPE:
12 This configuration option is a boolean feature define.
13
14 DEFAULT CONFIGURATION:
15 If this configuration option is undefined, then not ABC or something else.
16
17 DESCRIPTION:
18 In case this configuration option is defined, then ABC.
19
20 NOTES:
21 Notes for XYZ.
```

Author: Trac Migrate 2020-03-06T15:19:52.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 All boolean feature defines are undefined by default. The current_
  ↳ template is a bit awkward. Change the application configuration_
  ↳ option template for boolean feature defines to:
2 {{{
3 .. index:: CONFIGURE_XYZ
4
5 .. _CONFIGURE_XYZ:
6
7 CONFIGURE_XYZ
8 -----
9
10 CONSTANT:
11 ``CONFIGURE_XYZ``
12
13 OPTION TYPE:
14 This configuration option is a boolean feature define.
```

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```

15
16 DEFAULT CONFIGURATION:
17 If this configuration option is undefined, then not ABC or something.
18 ↪ else.
19 - OPTION DEFINED CONFIGURATION:
20 + DESCRIPTION:
21 In case this configuration option is defined, then ABC.
22
23 NOTES:
24 Notes for XYZ.
25 }}}

```

Author: Trac Migrate 2020-03-24T06:50:57.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"dfe0ec05b9c06e7dc915788e24c74582f51791f9/rtems-docs"
dfe0ec0/rtems-docs]:

```

1 c-user: Use new template for feature config opts
2
3 Try to bring all descriptions up to date. Add cross-references to
4 several options.
5
6 Close #3900.

```

Author: Trac Migrate 2020-03-30T09:16:33.000Z

Original author: sebastian.huber

In [changeset:"2f18a530bc73d9e54bd4d6b3cdb27f4e5ea1ca4e/rtems-docs"
2f18a53/rtems-docs]:

```

1 c-user: Use new template for feature config opts
2
3 Update #3900.

```

Author: Trac Migrate 2020-03-30T09:50:19.000Z

Original author: sebastian.huber

In [changeset:"e26f87497e99a8626921e9a687b0e22795417783/rtems-docs"
e26f874/rtems-docs]:

```
1 c-user: Avoid self references
2
3 Update #3900.
```

Author: Amar Takhar 2024-04-25T20:47:53.442Z

changed the description

Author: Amar Takhar 2024-04-25T20:47:53.979Z

mentioned in issue #3901

4.2.1.140 3898 - Remove CONFIGURE_MAXIMUM_DEVICES

Id	3898
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-03-04T18:05:38.000Z
Updated	2024-04-25T20:47:52.979Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3898
Merges	0

Original author: sebastian.huber

This configuration option was only used by the device filesystem which will be replaced by a special configuration of the IMFS.

Author: Trac Migrate 2020-03-09T18:00:14.000Z

Original author: sebastian.huber

In [changeset:"0161b93d50d6915116c4ca9d1cad42ef89a4ad9e/rtems" 0161b93d/rtems]:

```
1 imfs: Replace devfs with an IMFS specialization
2
3 Add a simplified path evaluation function IMFS_eval_path_devfs() for a
4 device only IMFS configuration.
5
6 The code size can be further reduced by the application if it disables
7 the support for legacy IO drivers via:
8
```

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```

9 #define CONFIGURE_IMFS_DISABLE_MKNOD
10 #define CONFIGURE_IMFS_DISABLE_MKNOD_DEVICE
11
12 Obsolete CONFIGURE_MAXIMUM_DEVICES.  Remove BSP_MAXIMUM_DEVICES.
13
14 Update #3894.
15 Update #3898.

```

Author: Trac Migrate 2020-03-13T12:29:24.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1ce24d319af340f037260ae6acca901e759a620d/rtems-docs" 1ce24d3/rtems-docs]:

```

1 c-user: Obsolete CONFIGURE_MAXIMUM_DEVICES
2
3 Close #3898.

```

Author: Amar Takhar 2024-04-25T20:47:53.015Z

changed the description

4.2.1.141 3885 - Context switch extension is broken in SMP configurations

Id	3885
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-02-25T17:40:26.000Z
Updated	2024-04-25T20:47:48.252Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3885
Merges	0

Original author: sebastian.huber

The context switch extensions are called during `_Thread_Do_dispatch()`:

```

1 void _Thread_Do_dispatch( Per_CPU_Control *cpu_self, ISR_Level level )
2 {

```

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```

3 Thread_Control *executing;
4
5 executing = cpu_self->executing;
6
7 ...
8 do {
9   Thread_Control *heir;
10
11   heir = _Thread_Get_heir_and_make_it_executing( cpu_self );
12   ...
13   _User_extensions_Thread_switch( executing, heir );
14   ...
15   _Context_Switch( &executing->Registers, &heir->Registers );
16   ...
17 } while ( cpu_self->dispatch_necessary );
18 ...
19 }

```

In uniprocessor configurations, the context switch extensions are called for all thread switches except the very first thread switch to the initialization thread. However, in SMP configurations, the context switch may be invalidated and updated in the low-level `_Context_Switch()` routine. See:

https://docs.rtems.org/branches/master/c-user/symmetric_multiprocessing_services.html#thread-dispatch-details

In case such an update happens, a thread executes on the processor which was not visible to the context switch extensions. This can confuse for example event record consumers which use events generated by a context switch extension.

Fixing this is not straight forward. The context switch extensions call must move after the low-level context switch. The problem here is that we may end up in `_Thread_Handler()`. Adding the context switch extensions call to `_Thread_Handler()` covers now also the thread switch to the initialization thread. We also have to save the last executing thread of the processor. Registers or the stack cannot be used for this purpose. We have to add it to the per-processor information. Existing extensions may be affected, since now context switch extensions use the stack of the heir thread.

Calling the thread switch extensions in the low level context switch is difficult since at this point an intermediate stack is used which is only large enough to enable servicing of interrupts.

Author: Joel Sherrill 2020-02-25T18:34:30.000Z

Original author: sebastian.huber

As I recall, doing this in `_Thread_Handler` is similar to having to restore FPU. Are there other actions with this characteristic?

Author: Chris Johns 2020-02-26T02:55:06.000Z

Original author: sebastian.huber

Is this an issue that needs to be fixed for RTEMS 5?

Author: Trac Migrate 2020-02-26T08:47:44.000Z

Original author: sebastian.huber

Replying to [Chris Johns](#):

Is this an issue that needs to be fixed for RTEMS 5? Yes, I think that the thread switch extensions should work in SMP configurations.

Author: Trac Migrate 2020-02-26T08:49:11.000Z

Original author: sebastian.huber

Moving the thread switch extension calls into the context of the heir thread breaks for example the stack checker. It checks that the current stack pointer is in the stack area of a thread.

Author: Trac Migrate 2020-02-26T08:51:14.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 The context switch extensions are called during _Thread_Do_dispatch():
2 {{{
3 #!c
4 void _Thread_Do_dispatch( Per_CPU_Control *cpu_self, ISR_Level level )
5 {
6   Thread_Control *executing;
7
8   executing = cpu_self->executing;
9
10  ...
11  do {
12    Thread_Control *heir;
13
14    heir = _Thread_Get_heir_and_make_it_executing( cpu_self );
15    ...
16    _User_extensions_Thread_switch( executing, heir );
17    ...
18    _Context_Switch( &executing->Registers, &heir->Registers );
19    ...
20  } while ( cpu_self->dispatch_necessary );
21  ...
22  }
23  }}}
24 In uniprocessor configurations, the context switch extensions are_

```

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```

↳ called for all thread switches except the very first thread switch to
↳ the initialization thread. However, in SMP configurations, the
↳ context switch may be invalidated and updated in the low-level _
↳ Context_Switch() routine. See:
25
26 https://docs.rtems.org/branches/master/c-user/symmetric_multiprocessing_
↳ services.html#thread-dispatch-details
27
28 In case such an update happens, a thread executes on the processor
↳ which was not visible to the context switch extensions. This can
↳ confuse for example event record consumers which use events generated
↳ by a context switch extension.
29
30 Fixing this is not straight forward. The context switch extensions call
↳ must move after the low-level context switch. The problem here is
↳ that we may end up in _Thread_Handler(). Adding the context switch
↳ extensions call to _Thread_Handler() covers now also the thread
↳ switch to the initialization thread. We also have to save the last
↳ executing thread of the processor. Registers or the stack cannot be
↳ used for this purpose. We have to add it to the per-processor
↳ information. Existing extensions may be affected, since now context
↳ switch extensions use the stack of the heir thread.
31 +
32 + Calling the thread switch extensions in the low level context switch
↳ is difficult since at this point an intermediate stack is used which
↳ is only large enough to enable servicing of interrupts.

```

Author: Chris Johns 2020-02-27T00:23:43.000Z

Original author: sebastian.huber

Replying to [Sebastian Huber](#):

Moving the thread switch extension calls into the context of the heir thread breaks for example the stack checker. It checks that the current stack pointer is in the stack area of a thread.

Is a patch to fix the stack checker being worked on?

I know of applications that have this running during development.

Author: Trac Migrate 2020-02-27T06:58:32.000Z

Original author: sebastian.huber

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

Moving the thread switch extension calls into the context of the heir thread breaks for example the stack checker. It

checks that the current stack pointer is in the stack area of a thread.

Is a patch to fix the stack checker being worked on? I know of applications that have this running during development.

This was easy to fix:

<https://lists.rtems.org/pipermail/devel/2020-February/057759.html>

I just wanted to highlight that this change can easily break existing extensions.

Author: Chris Johns 2020-02-27T22:46:31.000Z

Original author: sebastian.huber

Thanks.

Author: Trac Migrate 2020-03-02T06:52:07.000Z

Original author: sebastian.huber

In [changeset:"fcb11510c6b38a7a1f4da7205acc5461a4e18214/rtems" fcb11510/rtems]:

```

1 score: Fix context switch extensions (SMP)
2
3 In uniprocessor and SMP configurations, the context switch extensions
4 were called during _Thread_Do_dispatch():
5
6 void _Thread_Do_dispatch( Per_CPU_Control *cpu_self, ISR_Level level )
7 {
8   Thread_Control *executing;
9
10  executing = cpu_self->executing;
11
12  ...
13  do {
14    Thread_Control *heir;
15
16    heir = _Thread_Get_heir_and_make_it_executing( cpu_self );
17    ...
18    _User_extensions_Thread_switch( executing, heir );
19    ...
20    _Context_Switch( &executing->Registers, &heir->Registers );
21    ...
22  } while ( cpu_self->dispatch_necessary );
23  ...
24  }
25
26 In uniprocessor configurations, this is fine and the context switch

```

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```

27 extensions are called for all thread switches except the very first
28 thread switch to the initialization thread. However, in SMP
29 configurations, the context switch may be invalidated and updated in the
30 low-level _Context_Switch() routine. See:
31
32 https://docs.rtems.org/branches/master/c-user/symmetric\_multiprocessing\_
33 ↪ services.html#thread-dispatch-details
34
35 In case such an update happens, a thread will execute on the processor
36 which was not seen in the previous call of the context switch
37 extensions. This can confuse for example event record consumers which
38 use events generated by a context switch extension.
39
40 Fixing this is not straight forward. The context switch extensions call
41 must move after the low-level context switch. The problem here is that
42 we may end up in _Thread_Handler(). Adding the context switch
43 extensions call to _Thread_Handler() covers now also the thread switch
44 to the initialization thread. We also have to save the last executing
45 thread (ancestor) of the processor. Registers or the stack cannot be
46 used for this purpose. We have to add it to the per-processor
47 information. Existing extensions may be affected, since now context
48 switch extensions use the stack of the heir thread. The stack checker
49 is affected by this.
50
51 Calling the thread switch extensions in the low-level context switch is
52 difficult since at this point an intermediate stack is used which is
53 only large enough to enable servicing of interrupts.
54
55 Update #3885.

```

Author: Trac Migrate 2020-03-03T06:30:26.000Z

Original author: sebastian.huber

In [\[changeset:"198c07e5a58413bb2b16c01a15c545875d144ad5/rtems"198c07e5/rtems\]](#):

```

1 sptests/spextensions01: Add comment
2
3 Update #3885.

```

Author: Trac Migrate 2020-03-03T12:13:32.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"8bd4e6a55b131a1429a082a33b48b2f56a1963be/rtems-docs" 8bd4e6a/rtems-docs]:

```
1 c-user: Document thread switch extension changes
2
3 Close #3885.
```

Author: Amar Takhar 2024-04-25T20:47:48.301Z

changed the description

4.2.1.142 3876 - Remove CONFIGURE_DISABLE_SMP_CONFIGURATION

Id	3876
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-02-15T10:20:54.000Z
Updated	2024-04-25T20:47:47.312Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3876
Merges	0

Original author: sebastian.huber

The CONFIGURE_DISABLE_SMP_CONFIGURATION configuration option and rtems_configuration_is_smp_enabled() were added during the SMP support development cycle as a workaround to fix some testsuite failures in SMP configurations. Replace this configuration option with tests for specific conditions. The configuration option was undocumented.

Author: Trac Migrate 2020-02-25T11:33:20.000Z

Original author: sebastian.huber

In [changeset:"1ada3e55f695f77452bd4eb6ebb5d7a4054e1edf/rtems" 1ada3e55/rtems]:

```
1 score: Add _SMP_Need_inter_processor_interrupts()
2
3 Test for the proper system condition instead of using the
4 rtems_configuration_is_smp_enabled() workaround.
5
6 Update #3876.
```

Author: Trac Migrate 2020-02-25T11:33:24.000Z

Original author: sebastian.huber

In [changeset:"51614bd5bf3e7ad197a4a605948c0370e9b595ec/rtems" 51614bd5/rtems]:

```
1 bsp/clock: Use _SMP_Get_processor_maximum()
2
3 Use a specific test to enable the fast idle mode instead of using the
4 rtems_configuration_is_smp_enabled() workaround.
5
6 Update #3876.
```

Author: Trac Migrate 2020-02-25T11:33:27.000Z

Original author: sebastian.huber

In [changeset:"5b8d80d726091ece15eebf93827563979891c0ca/rtems" 5b8d80d7/rtems]:

```
1 config: CONFIGURE_INIT_TASK_INITIAL_MODES
2
3 Determine the default for CONFIGURE_INIT_TASK_INITIAL_MODES depeding on
4 whether RTEMS_SMP is defined or not.
5
6 In the tests, use CONFIGURE_INIT_TASK_INITIAL_MODES to explicitly
7 request RTEMS_NO_PREEMPT mode if necessary.
8
9 Update #3876.
```

Author: Trac Migrate 2020-02-25T11:33:30.000Z

Original author: sebastian.huber

In [changeset:"e50e42b820c4163a1c5e07c6697c3102fc2d4740/rtems" e50e42b8/rtems]:

```
1 score: _Scheduler_Is_non_preempt_mode_supported()
2
3 If the non-preempt mode for threads is supported depends on the
4 scheduler implementation. Add
5 _Scheduler_Is_non_preempt_mode_supported() to indicate this.
6
7 Update #3876.
```

Author: Trac Migrate 2020-02-25T11:33:33.000Z

Original author: sebastian.huber

In [changeset:"ca82a6038e90f61f36f7d3ff2703a348728c60ec/rtems" ca82a603/rtems]:

```
1 rtems: Change timer server task mode setting
2
3 Use the non-preempt mode only in uni-processor configurations.
4
5 Update #3876.
```

Author: Trac Migrate 2020-02-25T11:33:36.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”c7f748a100c6a92a24e726cbe1b039d04db02f32/rtems”
c7f748a/rtems]:

```
1 config: Remove CONFIGURE_DISABLE_SMP_CONFIGURATION
2
3 The CONFIGURE_DISABLE_SMP_CONFIGURATION configuration option and
4 rtems_configuration_is_smp_enabled() were added during the SMP support
5 development cycle as a workaround to fix some testsuite failures in SMP
6 configurations. All use cases were replaced with tests for specific
7 conditions. The configuration option and test macro were undocumented.
8
9 Close #3876.
```

Author: Amar Takhar 2024-04-25T20:47:47.349Z

changed the description

4.2.1.143 3875 - Split up confdefs.h in component based header files

Id	3875
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-02-14T13:13:44.000Z
Updated	2024-04-25T20:47:46.835Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3875
Merges	0

Original author: sebastian.huber

The confdefs.h header file is large, complex, and hard to review. Split it up into component header files to make it easier to maintain and review.

The general approach is to place the default configuration of things in librtemscpu.a. The benefit is that the application configuration object file will only include data structures which have a user-defined value.

The component based header files include their dependencies explicitly. It should be possible to include component based header files separately to ease testing. For example we could use this template:

```

1 #ifndef _RTEMS_CONFDEFS_FOOBAR_H
2 #define _RTEMS_CONFDEFS_FOOBAR_H
3
4 #ifndef __CONFIGURATION_TEMPLATE_h
5 #error "Do not include this file directly, use <rtems/confdefs.h> instead"
6 #endif
7
8 #if defined(CONFIGURE_INIT) && \
9 defined(CONFIGURE_FOOBAR_STUFF) && \
10 defined(CONFIGURE_MORE_FOOBAR_STUFF)
11
12 /* Foobar includes */
13
14 #ifdef __cplusplus
15 extern "C" {
16 #endif /* __cplusplus */
17
18 /* Configure foobar. */
19
20 #ifdef __cplusplus
21 }
22 #endif /* __cplusplus */
23
24 #endif /* CONFIGURE_INIT */
25
26 #endif /* _RTEMS_CONFDEFS_FOOBAR_H */

```

In case CONFIGURE_INIT is not defined, then including <rtems/confdefs.h> should expose nothing to the C compiler.

Here is a first proposal to group the configuration in components:

```

1 rtems/
2 confdefs.h
3 This file just includes the component based header files listed below.
4 confdefs/
5 bdbuf.h
6 classicobj.h
7 Classic API objects
8 classictasksinit.h
9 Classic initialization task

```

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```

10 driverclock.h
11 Clock driver and related configuration, e.g. CONFIGURE_MICROSECONDS_PER_TICK
12 driverconsolesimple.h
13 Simple console driver configuration
14 driverlegacy.h
15 Legacy IO driver configuration table
16 extensions.h
17 User extensions, internal extensions
18 filesystem.h
19 Filesystem configuration
20 general.h
21 Basic stuff which is mandatory to configure, e.g. ISR stacks, per-CPU information
22 libpci.h
23 PCI library configuration
24 malloc.h
25 Malloc configuration
26 mpci.h
27 MPCI specific configuration options
28 msgq.h
29 General message queue configuration
30 obsolete.h
31 Warning about the use of obsolete configure options
32 posixkeys.h
33 POSIX keys
34 posixobj.h
35 POSIX objects
36 posixthreadsinit.h
37 POSIX initialization threads
38 scheduler.h
39 Scheduler configuration
40 support.h
41 Support macros for confdefs header files
42 threads.h
43 General thread configuration (e.g. thread control block)
44 unlimited.h
45 Unlimited objects configuration

```

Author: Trac Migrate 2020-02-17T07:47:03.000Z

Original author: sebastian.huber

In [changeset:"588646279951ff696f3893a4c2e79aa1ba67fccf/rtems" 58864627/rtems]:

```

1 config: Remove unused declaration and defines
2
3 Update #3875.

```

Author: Trac Migrate 2020-02-20T07:56:45.000Z

Original author: sebastian.huber

In [changeset:"874a5ef1173e46b962532195f33abcba85667c99/rtems-docs" 874a5ef/rtems-docs]:

```
1 c-user: Clarify CONFIGURE_MAXIMUM_PRIORITY
2
3 Update #3875.
```

Author: Trac Migrate 2020-02-24T06:32:45.000Z

Original author: sebastian.huber

In [changeset:"61a2b3eed14fdf7db4759c80b86dfe43630818e/rtems-docs" 61a2b3e/rtems-docs]:

```
1 c-user: Clarify filesystem configuration
2
3 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:32:26.000Z

Original author: sebastian.huber

In [changeset:"f6fcfea12f1915f7616371852538df5db90ee979/rtems" f6fcfea1/rtems]:

```
1 mptests/mp14: Include missing header file
2
3 Include <mpci.h> for MPC_I_Print_statistics().
4
5 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:32:30.000Z

Original author: sebastian.huber

In [changeset:"5d1d3485cb31c5fe4b822c8c8fb888fa68f48e7e/rtems" 5d1d348/rtems]:

```
1 libtests/stackchk: Include missing header file
2
3 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:32:33.000Z

Original author: sebastian.huber

In [changeset:"77ee8276ef54c56890757522208bbb39d4cb737e/rtems" 77ee827/rtems]:

```
1 sptests/spcbssched03: Include missing header file
2
3 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:32:52.000Z

Original author: sebastian.huber

In [changeset:"b8648bdc0c4932b954b73e3e95301a024229ff22/rtems" b8648bd/rtems]:

```
1 config: Add _Watchdog_Microseconds_per_tick
2
3 Move the microseconds per tick configuration constant out of the
4 configuration table.
5
6 Add WATCHDOG_MICROSECONDS_PER_TICK_DEFAULT and use it to provide a
7 default definition of the watchdog ticks constants.
8
9 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:32:55.000Z

Original author: sebastian.huber

In [changeset:"308a2e0fdcde94b8549dcf9dcdd42eea3cdc9f27/rtems" 308a2e0f/rtems]:

```
1 config: Add _Watchdog_Ticks_per_timeslice
2
3 Move the ticks per timeslice configuration constant out of the
4 configuration table.
5
6 Add WATCHDOG_TICKS_PER_TIMESLICE_DEFAULT and use it to provide a default
7 definition of the watchdog ticks per timeslice constant.
8
9 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:32:58.000Z

Original author: sebastian.huber

In [changeset:"c70d112599b1688d954f6566bfa29d5988d82464/rtems" c70d112/rtems]:


```

1 config: Add _Thread_Idle_stack_size
2
3 Move the idle thread stack size configuration constant out of the
4 configuration table.
5
6 Add THREAD_IDLE_STACK_SIZE_DEFAULT and use it to provide a default
7 definition of the idle thread stack size constant.
8
9 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:33:01.000Z

Original author: sebastian.huber

In [changeset:"5180762ccb480e72c0dac5eb3c8c27a2ad62a240/rtems" 5180762c/rtems]:

```

1 config: Add _Thread_Idle_body
2
3 Move the idle thread body configuration constant out of the
4 configuration table.
5
6 Provide a default definition of the idle thread body constant.
7
8 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:33:04.000Z

Original author: sebastian.huber

In [changeset:"ba7b2df7f00c92106cf70a55be629c19d2e8f2bf/rtems" ba7b2df7/rtems]:

```

1 config: Add _Workspace_Size
2
3 Move the workspace size configuration constant out of the configuration
4 table.
5
6 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:33:08.000Z

Original author: sebastian.huber

In [changeset:"ad85c00966451ee793ced8ee1141a55b3911394f/rtems" ad85c00/rtems]:

```
1 config: Add _Workspace_Is_unified
2
3 Move the unified workspace configuration constant out of the
4 configuration table.
5
6 Provide a default definition of the unified workspace constant.
7
8 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:33:11.000Z

Original author: sebastian.huber

In [changeset:"567455b67ae820b58b5749d1b059d0ccfc4d0e95/rtems"567455b6/rtems]:

```
1 config: Add _SMP_Processor_configure_maximum
2
3 Move the processor maximum configuration constant out of the
4 configuration table.
5
6 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:33:14.000Z

Original author: sebastian.huber

In [changeset:"ba46b9368eaf57e8c2361c215ceb0d6335ce80fe/rtems"ba46b936/rtems]:

```
1 config: Add _SMP_Is_enabled
2
3 Move the is SMP enabled configuration constant out of the
4 configuration table.
5
6 Since this was the last configuration constant in
7 rtems_configuration_table, remove this type.
8
9 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:33:42.000Z

Original author: sebastian.huber

In [changeset:"0561cc1c7c5509e8bbe03a7be55763df691f1061/rtems"0561cc1/rtems]:

```

1 config: Remove _Configure_Max_Objects()
2
3 Use rtems_resource_maximum_per_allocation() directly. The use of
4 _Configure_Zero_or_one() was superfluous.
5
6 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:33:45.000Z

Original author: sebastian.huber

In [changeset:"cadd8d18e316fe1fc2c91ae03e2b4ee89b07ef67/rtems" cadd8d1/rtems]:

```

1 config: Add <rtems/confdefs/obsolete.h>
2
3 Unify handling of obsolete configuration options. Remove comments and
4 copyrightable content from the moved content. Use BSD-2-Clause license
5 for new file.
6
7 Update #3053.
8 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:33:49.000Z

Original author: sebastian.huber

In [changeset:"55a731615980a54d9020ee8b0b9b6ba29ab89fe6/rtems" 55a7316/rtems]:

```

1 config: Add <rtems/confdefs/libpci.h>
2
3 Derive copyright and license for new file from the file history.
4
5 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:33:52.000Z

Original author: sebastian.huber

In [changeset:"f45d0b2f8e8037189ee4816628e2c0e13dfb50d6/rtems" f45d0b2f/rtems]:

```

1 config: Add <rtems/confdefs/bsp.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
```

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6 Update #3053.
7 Update #3875.

Author: Trac Migrate 2020-02-25T11:33:55.000Z

Original author: sebastian.huber

In [changeset:"0f8e139e14e569f7555a2a69d62bc5446b1bea30/rtems" 0f8e139e/rtems]:

1 config: Add <rtems/confdefs/percpu.h>
2
3 Remove comments and copyrightable content from the moved content. Use
4 BSD-2-Clause for new file according to file history of
5 <rtems/confdefs.h>.
6
7 Update #3053.
8 Update #3875.

Author: Trac Migrate 2020-02-25T11:33:59.000Z

Original author: sebastian.huber

In [changeset:"16082210d61d00ac83d1aa39055e8562755864ab/rtems" 1608221/rtems]:

1 config: Add <rtems/confdefs/libio.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.

Author: Trac Migrate 2020-02-25T11:34:02.000Z

Original author: sebastian.huber

In [changeset:"591e973662d6abf027c054bc5ed4eb16c964c92c/rtems" 591e9736/rtems]:

1 config: Add <rtems/confdefs/scheduler.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.

Author: Trac Migrate 2020-02-25T11:34:06.000Z

Original author: sebastian.huber

In [changeset:"691b61498ed32cef1e83cd9917c8567329286cfa/rtems" 691b614/rtems]:

```
1 config: Add <rtems/confdefs/bdbuf.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:09.000Z

Original author: sebastian.huber

In [changeset:"03aff2cf85b514f34cba2e798928471795fd80be/rtems" 03aff2c/rtems]:

```
1 config: Add <rtems/confdefs/malloc.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Move the default configuration to library files so that application
7 configurations do not include the definitions for the default case.
8
9 Update #3053.
10 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:13.000Z

Original author: sebastian.huber

In [changeset:"1d35bf2a7fc15beb0249c011cd5ed246ce50f68d/rtems" 1d35bf2a/rtems]:

```
1 config: Add <rtems/confdefs/mcpi.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:17.000Z

Original author: sebastian.huber

In [changeset:"32561f5f5b9dc5bfc396e497da118eeaf3fb1867/rtems" 32561f5/rtems]:

```
1 config: Add <rtems/confdefs/clock.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:20.000Z

Original author: sebastian.huber

In [changeset:"fb0caca9bcd585376b31bd23f7b77275d7a134fb/rtems" fb0caca/rtems]:

```
1 config: Add <rtems/confdefs/newlib.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:23.000Z

Original author: sebastian.huber

In [changeset:"8f3419bd880f46e9c072d535d67dd98f5767ee7c/rtems" 8f3419b/rtems]:

```
1 config: Add <rtems/confdefs/extensions.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.
```

Author: Trac Migrate 2020-02-25T11:34:27.000Z

Original author: sebastian.huber

In [changeset:"b15d1cba0ff0acead2650c7a3df6f75eefccafa6/rtems" b15d1cb/rtems]:

```

1 config: Add <rtems/confdefs/inittask.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.

```

Author: Trac Migrate 2020-02-25T11:34:30.000Z

Original author: sebastian.huber

In [changeset:"831493390778064f0881e55bd965ac25cfc34df1/rtems"8314933/rtems]:

```

1 config: Add <rtems/confdefs/initthread.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.

```

Author: Trac Migrate 2020-02-25T11:34:34.000Z

Original author: sebastian.huber

In [changeset:"fe84ab5c6cd612538970e4ace1aad850a4b26d0c/rtems"fe84ab5/rtems]:

```

1 config: Add <rtems/confdefs/console.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.

```

Author: Trac Migrate 2020-02-25T11:34:37.000Z

Original author: sebastian.huber

In [changeset:"7b6596f56fe9e453047a446ca34ec050cf23cbc6/rtems"7b6596f5/rtems]:

```

1 config: Add <rtems/confdefs/iodrivers.h>
2
3 Remove all comments and copyrightable content from the moved content.

```

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```

4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.

```

Author: Trac Migrate 2020-02-25T11:34:41.000Z

Original author: sebastian.huber

In [changeset:"40db0518a9893fbeat95a8fb1691aff94244f6bf/rtems" 40db051/rtems]:

```

1 config: Add <rtems/confdefs/unlimited.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.

```

Author: Trac Migrate 2020-02-25T11:34:44.000Z

Original author: sebastian.huber

In [changeset:"f5a2fd8628f3c432ee75e8964b00eb66c6f4a1f7/rtems" f5a2fd86/rtems]:

```

1 config: Add <rtems/confdefs/threads.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.

```

Author: Trac Migrate 2020-02-25T11:34:48.000Z

Original author: sebastian.huber

In [changeset:"d20209b06578c3fdfab3eee892dcfbdb6bf64620/rtems" d20209b/rtems]:

```

1 config: Add <rtems/confdefs/objectsclassic.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5

```

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6 Update #3053.
7 Update #3875.

Author: Trac Migrate 2020-02-25T11:34:51.000Z

Original author: sebastian.huber

In [changeset:"35e58c45f73239ac40abd09d6fbe40104acb89ae/rtems" 35e58c45/rtems]:

1 config: Add <rtems/confdefs/wkspacesupport.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.

Author: Trac Migrate 2020-02-25T11:34:55.000Z

Original author: sebastian.huber

In [changeset:"1fb1cf1a3a61021790a9cc438a150e4141b5a386/rtems" 1fb1cf1/rtems]:

1 config: Add <rtems/confdefs/objectsposix.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.
5
6 Update #3053.
7 Update #3875.

Author: Trac Migrate 2020-02-25T11:34:59.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"a78495eda2d8ef6653a06222f9786b51f722efab/rtems" a78495ed/rtems]:

1 config: Add <rtems/confdefs/wkspace.h>
2
3 Remove all comments and copyrightable content from the moved content.
4 Use BSD-2-Clause license for new file.

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```

5
6 Change licence of <rtems/confdefs.h> to BSD-2-Clause according to file
7 history.
8
9 Update #3053.
10 Close #3875.

```

Author: Trac Migrate 2020-02-25T13:03:49.000Z

Original author: sebastian.huber

In [changeset:"470df1f35400b30a6c147f6914001c720f49914/rtems" 470df1f/rtems]:

```

1 config: Resurrect NULL_DRIVER_TABLE_ENTRY
2
3 This define may be used by application configurations for the
4 CONFIGURE_APPLICATION_EXTRA_DRIVERS definition.
5
6 Update #3875.

```

Author: Trac Migrate 2020-03-04T08:26:38.000Z

Original author: sebastian.huber

In [changeset:"fdeaa64e1786e7f18814d8c7eae219332d672c27/rtems" fdeaa64/rtems]:

```

1 config: Remove <rtems/btimer.h> include
2
3 The use of CONFIGURE_APPLICATION_NEEDS_TIMER_DRIVER does not define
4 anything, so remove the <rtems/btimer.h> include.
5
6 Update #3875.

```

Author: Trac Migrate 2020-04-14T14:30:16.000Z

Original author: sebastian.huber

In [changeset:"4f32722e33a2a8aa38f0c0ef79d989017334ab62/rtems" 4f32722/rtems]:

```

1 config: Fix typo
2
3 Update #3875.

```

Author: Trac Migrate 2021-11-17T08:12:13.000Z

Original author: sebastian.huber

In [changeset:"32cee88357546ca4c3352b1691b05059f086bf74/rtems" 32cee883/rtems]:

```

1 config: CONFIGURE_DISABLE_BSP_SETTINGS
2
3 Evaluate CONFIGURE_DISABLE_BSP_SETTINGS for each affected application
4 configuration option. This makes the code easier to review since the
5 ↪influence
6 of CONFIGURE_DISABLE_BSP_SETTINGS is locally visible in the code.
7 Update #3875.
```

Author: Trac Migrate 2021-11-17T08:12:17.000Z

Original author: sebastian.huber

In [changeset:"c47daf6f689e0c99fd398d4caa1d61197bca277d/rtems" c47daf6f/rtems]:

```

1 config: Fix IO driver table initialization
2
3 Check all IO driver table configuration options which are used to
4 ↪initialize
5 _IO_Driver_address_table[]. Checks for the following settings were
6 ↪missing:
7
8 * CONFIGURE_BSP_PREREQUISITE_DRIVERS
9
10 * CONFIGURE_APPLICATION_PREREQUISITE_DRIVERS
11
12 * CONFIGURE_APPLICATION_NEEDS_WATCHDOG_DRIVER
13
14 Update #3875.
```

Author: Amar Takhar 2024-04-25T20:47:46.889Z

changed the description

Author: Amar Takhar 2024-04-25T20:48:18.713Z

mentioned in issue #4060

4.2.1.144 3874 - Remove CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE

Id	3874
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-02-14T07:09:37.000Z
Updated	2024-04-25T20:47:46.367Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3874
Merges	0

Original author: sebastian.huber

The `CONFIGURE_HAS_OWN_INIT_TASK_TABLE` and `CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE` are the last `_HAS_OWN_` configuration options. These two options are probably unused, see also:

<https://lists.rtems.org/pipermail/users/2019-April/033129.html> <https://lists.rtems.org/pipermail/users/2019-April/033130.html>

Removing them simplifies the configuration. If there is a real user need which shows up after the removal, we can resurrect them on demand.

Using `CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE` would have required the use of the undocumented `CONFIGURE_POSIX_INIT_THREAD_TABLE_NAME` and `CONFIGURE_POSIX_INIT_THREAD_TABLE_SIZE` configuration options.

Author: Trac Migrate 2020-02-14T07:21:21.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 The CONFIGURE_HAS_OWN_INIT_TASK_TABLE and CONFIGURE_POSIX_HAS_OWN_INIT_
  ↳ THREAD_TABLE are the last *_HAS_OWN_* configuration options. These_
  ↳ two options are probably unused, see also:
2
3 https://lists.rtems.org/pipermail/users/2019-April/033129.html
4 https://lists.rtems.org/pipermail/users/2019-April/033130.html
5
6 Removing them simplifies the configuration. If there is a real user_
  ↳ need which shows up after the removal, we can resurrect them on_
  ↳ demand.
7 +
8 + Using CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE would have required_

```

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→ the use of the undocumented `CONFIGURE_POSIX_INIT_THREAD_TABLE_NAME` and `CONFIGURE_POSIX_INIT_THREAD_TABLE_SIZE` configuration options.

Author: Trac Migrate 2020-02-25T11:32:48.000Z

Original author: sebastian.huber

In [changeset:"3b4795b46fa190ea29007a6b9766689cacffe3d2/rtems" 3b4795b4/rtems]:

```

1 config: Remove CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE
2
3 The CONFIGURE_HAS_OWN_INIT_TASK_TABLE and
4 CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE are the last *_HAS_OWN_*
5 configuration options. These two options are probably unused, see also:
6
7 * https://lists.rtems.org/pipermail/users/2019-April/033129.html
8
9 * https://lists.rtems.org/pipermail/users/2019-April/033130.html
10
11 Removing them simplifies the configuration. If there is a real user need
12 which shows up after the removal, we can resurrect them on demand.
13
14 Using CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE would have required the
15 use of the undocumented CONFIGURE_POSIX_INIT_THREAD_TABLE_NAME and
16 CONFIGURE_POSIX_INIT_THREAD_TABLE_SIZE configuration options.
17
18 Update #3874.
```

Author: Trac Migrate 2020-02-25T11:35:21.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d10e3b1a7e4ffcede23c5e6ca6c79a0a2cafaaa1/rtems-docs" d10e3b1/rtems-docs]:

```

1 c-user: Obsolete CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE
2
3 The CONFIGURE_HAS_OWN_INIT_TASK_TABLE and
4 CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE are the last *_HAS_OWN_*
5 configuration options. These two options are probably unused, see also:
6
7 * https://lists.rtems.org/pipermail/users/2019-April/033129.html
8
9 * https://lists.rtems.org/pipermail/users/2019-April/033130.html
```

(continues on next page)

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```
10
11 Removing them simplifies the configuration. If there is a real user need
12 which shows up after the removal, we can resurrect them on demand.
13
14 Using CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE would have required the
15 use of the undocumented CONFIGURE_POSIX_INIT_THREAD_TABLE_NAME and
16 CONFIGURE_POSIX_INIT_THREAD_TABLE_SIZE configuration options.
17
18 Close #3874.
```

Author: Amar Takhar 2024-04-25T20:47:46.414Z

changed the description

4.2.1.145 3873 - Remove CONFIGURE_HAS_OWN_INIT_TASK_TABLE

Id	3873
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-02-14T07:09:03.000Z
Updated	2024-04-25T20:47:45.896Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3873
Merges	0

Original author: sebastian.huber

The CONFIGURE_HAS_OWN_INIT_TASK_TABLE and CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE are the last _HAS_OWN_ configuration options. These two options are probably unused, see also:

<https://lists.rtems.org/pipermail/users/2019-April/033129.html> <https://lists.rtems.org/pipermail/users/2019-April/033130.html>

Removing them simplifies the configuration. If there is a real user need which shows up after the removal, we can resurrect them on demand.

Using CONFIGURE_HAS_OWN_INIT_TASK_TABLE would have required the use of the undocumented CONFIGURE_INIT_TASK_TABLE and CONFIGURE_INIT_TASK_TABLE_SIZE configuration options.

Author: Trac Migrate 2020-02-14T07:21:04.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 The CONFIGURE_HAS_OWN_INIT_TASK_TABLE and CONFIGURE_POSIX_HAS_OWN_INIT_
  ↳ THREAD_TABLE are the last *_HAS_OWN_* configuration options. These_
  ↳ two options are probably unused, see also:
2
3 https://lists.rtems.org/pipermail/users/2019-April/033129.html
4 https://lists.rtems.org/pipermail/users/2019-April/033130.html
5
6 Removing them simplifies the configuration. If there is a real user_
  ↳ need which shows up after the removal, we can resurrect them on_
  ↳ demand.
7 +
8 + Using CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE would have required_
  ↳ the use of the undocumented CONFIGURE_POSIX_INIT_THREAD_TABLE_NAME_
  ↳ and CONFIGURE_POSIX_INIT_THREAD_TABLE_SIZE configuration options.
```

Author: Trac Migrate 2020-02-14T07:22:20.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 The CONFIGURE_HAS_OWN_INIT_TASK_TABLE and CONFIGURE_POSIX_HAS_OWN_INIT_
  ↳ THREAD_TABLE are the last *_HAS_OWN_* configuration options. These_
  ↳ two options are probably unused, see also:
2
3 https://lists.rtems.org/pipermail/users/2019-April/033129.html
4 https://lists.rtems.org/pipermail/users/2019-April/033130.html
5
6 Removing them simplifies the configuration. If there is a real user_
  ↳ need which shows up after the removal, we can resurrect them on_
  ↳ demand.
7
8 - Using CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE would have required_
  ↳ the use of the undocumented CONFIGURE_POSIX_INIT_THREAD_TABLE_NAME_
  ↳ and CONFIGURE_POSIX_INIT_THREAD_TABLE_SIZE configuration options.
9 ?          -----          --- ^
  ↳          -----          --- ^          -----
  ↳          -----          --- ^
10
11 + Using CONFIGURE_HAS_OWN_INIT_TASK_TABLE would have required the use_
  ↳ of the undocumented CONFIGURE_INIT_TASK_TABLE and CONFIGURE_INIT_TASK_
  ↳ TABLE_SIZE configuration options.
12 ?          ^ ^
  ↳          ^ ^          ^ ^
```

Author: Trac Migrate 2020-02-25T11:32:37.000Z

Original author: sebastian.huber

In [changeset:"6b0873ffdfd59f163dbb3a64b77dd6604701435d/rtems" 6b0873f/rtems]:

```

1 config: Remove CONFIGURE_HAS_OWN_INIT_TASK_TABLE
2
3 The CONFIGURE_HAS_OWN_INIT_TASK_TABLE and
4 CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE are the last *_HAS_OWN_*
5 configuration options. These two options are probably unused, see also:
6
7 * https://lists.rtems.org/pipermail/users/2019-April/033129.html
8
9 * https://lists.rtems.org/pipermail/users/2019-April/033130.html
10
11 Removing them simplifies the configuration. If there is a real user need
12 which shows up after the removal, we can resurrect them on demand.
13
14 Using CONFIGURE_HAS_OWN_INIT_TASK_TABLE would have required the use of
15 the undocumented CONFIGURE_INIT_TASK_TABLE and
16 CONFIGURE_INIT_TASK_TABLE_SIZE configuration options.
17
18 Update #3873.
```

Author: Trac Migrate 2020-02-25T11:32:40.000Z

Original author: sebastian.huber

In [changeset:"9520ec3a2aab575e264410d1ce95c468897c3bc9/rtems" 9520ec3/rtems]:

```

1 config: Simplify initialization task config
2
3 With the removal of the CONFIGURE_HAS_OWN_INIT_TASK_TABLE configuration
4 option at most one Classic API user initialization task can be
5 configured.
6
7 Provide an RTEMS API configuration table for backward compatibility.
8
9 Update #3873.
```

Author: Trac Migrate 2020-02-25T11:35:19.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"3738a74014753ca37891f0725ca72ca82dd4391e/rtems-docs" 3738a74/rtems-docs]:

```

1 c-user: Obsolete CONFIGURE_HAS_OWN_INIT_TASK_TABLE
2
3 The CONFIGURE_HAS_OWN_INIT_TASK_TABLE and
4 CONFIGURE_POSIX_HAS_OWN_INIT_THREAD_TABLE are the last *_HAS_OWN_*
5 configuration options. These two options are probably unused, see also:
6
7 * https://lists.rtems.org/pipermail/users/2019-April/033129.html
8
9 * https://lists.rtems.org/pipermail/users/2019-April/033130.html
10
11 Removing them simplifies the configuration. If there is a real user need
12 which shows up after the removal, we can resurrect them on demand.
13
14 Using CONFIGURE_HAS_OWN_INIT_TASK_TABLE would have required the use of
15 the undocumented CONFIGURE_INIT_TASK_TABLE and
16 CONFIGURE_INIT_TASK_TABLE_SIZE configuration options.
17
18 Close #3873.
```

Author: Amar Takhar 2024-04-25T20:47:45.943Z

changed the description

4.2.1.146 3871 - Remove rtems_configuration_get_posix_api_configuration()

Id	3871
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-02-13T15:20:03.000Z
Updated	2024-04-25T20:47:44.926Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3871
Merges	0

Original author: sebastian.huber

The corresponding data structure not longer exists. This function was not tested.

Author: Trac Migrate 2020-02-17T07:46:52.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"f61377826e99db93eb69d9c859bbbb98dbb5046c/rtems" f613778/rtems]:

```
1 Remove rtems_configuration_get_posix_api_configuration()
2
3 The corresponding data structure not longer exists. This function was
4 not tested and documented.
5
6 Close #3871.
```

Author: Amar Takhar 2024-04-25T20:47:44.964Z

changed the description

4.2.1.147 3865 - Fix linker set item declarations for small data area targets

Id	3865
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-02-05T07:39:33.000Z
Updated	2024-04-25T20:47:43.988Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3865
Merges	0

Original author: sebastian.huber

Some targets (e.g. 32-bit PowerPC) have a small-data area. Linker set items are not in the small data area. We have to tell this the compiler, otherwise linker error may occur due to a mismatch of relocations. There are two options to do this.

1. We can declare items as an array of unspecified size and define items as an array with one element. The problem with this is that it breaks existing code, e.g. an item initializer would have to change.
2. We add the section to the declaration. The problem is that in this case we need a dedicated declaration macro for the ordered items.

Since item declarations are rarely used, we select option 2.

Author: Trac Migrate 2020-02-06T14:22:17.000Z

Original author: sebastian.huber

In [changeset:"9fac9f93a5c6371f992e974c56a29da19149d9ae/rtems"9fac9f9/rtems]:

```
1 score: Fix linker sets on small data area targets
2
3 Update #3865.
```

Author: Trac Migrate 2020-02-06T14:24:21.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"a4b23d9ba8f4d927c7564da496a9bc4d897ca49f/rtems-docs"a4b23d9/rtems-docs]:

```
1 c-user: Document new linker set macros
2
3 Adjust copyright. Linker sets were introduced in 2015.
4
5 Update #2408.
6 Close #3865.
```

Author: Amar Takhar 2024-04-25T20:47:44.030Z

changed the description

Author: Amar Takhar 2024-04-25T20:48:34.466Z

mentioned in issue #4223

4.2.1.148 3863 - Remove support for the BSP_ZERO_WORKSPACE_AUTOMATICALLY BSP option

Id	3863
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-02-04T10:56:55.000Z
Updated	2024-04-25T20:47:43.553Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3863
Merges	0

Original author: sebastian.huber

BSPs had the option to enable the `CONFIGURE_ZERO_WORKSPACE_AUTOMATICALLY` via the `BSP_ZERO_WORKSPACE_AUTOMATICALLY` BSP option. There is no BSP which defines this option. In addition, it makes no sense that a BSP can influence this high level system configuration.

Author: Trac Migrate 2020-02-06T14:22:20.000Z

Original author: sebastian.huber

In [changeset:"cadff8f7df4cbfa0fc2a91bc4d930c76bb897c87/rtems"
cadff8f7/rtems]:

```
1 config: Remove BSP_ZERO_WORKSPACE_AUTOMATICALLY
2
3 Update #3863.
```

Author: Trac Migrate 2020-02-06T14:24:19.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"df2dcdbabc4849dd23d5dfb45e0e482f4cdafb3/rtems-docs"
df2dcdb/rtems-docs]:

```
1 Remove BSP_ZERO_WORKSPACE_AUTOMATICALLY
2
3 Close #3863.
```

Author: Amar Takhar 2024-04-25T20:47:43.592Z

changed the description

4.2.1.149 3862 - Canonicalize CONFIGURE_ZERO_WORKSPACE_AUTOMATICALLY

Id	3862
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-02-04T10:46:29.000Z
Updated	2024-04-25T20:47:43.111Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3862
Merges	0

Original author: sebastian.huber

The CONFIGURE_ZERO_WORKSPACE_AUTOMATICALLY configuration option is documented to be a boolean feature macro (is defined or undefined). However, in confdefs.h it uses the values TRUE and FALSE. It is the only configuration option implemented like this. Change it to use defined/undefined instead like the other options. This affects existing application configurations which use:

```
1 #define CONFIGURE_ZERO_WORKSPACE_AUTOMATICALLY FALSE
```

An unintentional zero of the workspace has an effect on the system boot time. This is an acceptable trade-off for the more canonical configuration.

Author: Trac Migrate 2020-02-06T14:22:27.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1d43a976a83f1b815ec07ce00e3db31fbd36aac4/rtems"1d43a97/rtems]:

```
1 config: CONFIGURE_ZERO_WORKSPACE_AUTOMATICALLY
2
3 Canonicalize CONFIGURE_ZERO_WORKSPACE_AUTOMATICALLY and use
4 defined/undefined instead of TRUE/FALSE.
5
6 Close #3862.
```

Author: Amar Takhar 2024-04-25T20:47:43.152Z

changed the description

4.2.1.150 3861 - Add CONFIGURE_VERBOSE_SYSTEM_INITIALIZATION

Id	3861
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-02-04T05:23:46.000Z
Updated	2024-04-25T20:47:42.660Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3861
Merges	0

Original author: sebastian.huber

Add a configuration option to print some information during system initialization.

Author: Trac Migrate 2020-02-04T06:03:59.000Z

Original author: sebastian.huber

In [changeset:"e44ae805f7c27f0561f511fdab8649f840db6816/rtems" e44ae80/rtems]:

```
1 config: Add CONFIGURE_VERBOSE_SYSTEM_INITIALIZATION
2
3 Update #3861.
```

Author: Trac Migrate 2020-02-04T06:05:02.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"069bfacc51e7e39010ffd91f70dee6490bef79ae/rtems-docs" 069bfac/rtems-docs]:

```
1 c-user: Add CONFIGURE_VERBOSE_SYSTEM_INITIALIZATION
2
3 Close #3861.
```

Author: Amar Takhar 2024-04-25T20:47:42.698Z

changed the description

4.2.1.151 3856 - posix_devctl - Add support for SOCKCLOSE

Id	3856
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2020-01-15T17:37:41.000Z
Updated	2024-04-25T20:47:41.371Z
Milestone	5.1
Labels	api::posix, posix, priority::normal, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3856
Merges	0

The FACE Technical Standard, Edition 3.0 and later require the definition of the subcommand SOCKCLOSE in <devctl.h>.

Reference: <https://www.opengroup.org/face>

The SOCKCLOSE constant has previously been added to <devctl.h> in newlib.

Author: Trac Migrate 2020-01-17T22:13:45.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”5e7b3c6533aae1bedce65c1b2dfc28a34cfe8161/rtems”5e7b3c65/rtems]:

```
1 posix_devctl - Add support for SOCKCLOSE
2
3 The FACE Technical Standard, Edition 3.0 and later require the
  ↳ definition
4 of the subcommand SOCKCLOSE in <devctl.h>.
5
6 Reference: \ |md_0_8203|\ https://www.opengroup.org/face
7
8 closes #3856.
```

Author: Amar Takhar 2024-04-25T20:47:41.413Z

changed the description

4.2.1.152 3845 - Remove Ada-specific configuration options

Id	3845
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-12-17T13:47:37.000Z
Updated	2024-04-25T20:47:35.022Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3845
Merges	0

Original author: sebastian.huber

We have currently three Ada related configuration options:

- `CONFIGURE_GNAT_RTEMS`
- `CONFIGURE_MAXIMUM_ADA_TASKS`
- `CONFIGURE_MAXIMUM_FAKE_ADA_TASKS`

The `CONFIGURE_MAXIMUM_FAKE_ADA_TASKS` option has no effect. The `CONFIGURE_GNAT_RTEMS` is mandatory to use the `CONFIGURE_MAXIMUM_ADA_TASKS` option. So, if you just use

```
define CONFIGURE_MAXIMUM_ADA_TASKS 123
```

then you get a re-definition warning and hopefully pay attention to it. This is not very user friendly from point of view.

The `CONFIGURE_MAXIMUM_ADA_TASKS` just adds the configured count to `CONFIGURE_MAXIMUM_POSIX_THREADS`.

The original purpose of these was to:

`CONFIGURE_GNAT_RTEMS` - add in resources required by Ada run-time independent of the number of Ada tasks (e.g. POSIX threads)

`CONFIGURE_MAXIMUM_ADA_TASKS` - add in POSIX threads, condition variable, and mutex required for each Ada task

`CONFIGURE_MAXIMUM_FAKE_ADA_TASKS` - add in condition variables and mutex required by Ada run-time for a task/thread created outside the Ada run-time which invokes Ada code and is thus a user of the run-time.

Given that you can turn on unlimited threads now and condition variables and mutexes are static, I don't think they have a need any longer. Plus it sounds like they bit rotted. If we needed them still, they would have to be fixed.

We still need documentation that Ada tasks are POSIX threads and must be accounted for in configuring the system. So when moving documentation around, please make that point clear in the `CONFIGURE_MAXIMUM_POSIX_THREADS` description.

See also:

<https://lists.rtems.org/pipermail/devel/2019-December/056523.html>

Author: Trac Migrate 2019-12-19T07:55:58.000Z

Original author: sebastian.huber

In [changeset:"88c198bfae6572fe7780c3bf5f3a59b981ed5f55/rtems" 88c198b/rtems]:

```
1 config: Remove Ada configuration options
2
3 Update #3845.
```

Author: Trac Migrate 2019-12-19T07:57:49.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"da309b93deb2edf0255108f90d9bbd010eb79e12/rtems-docs" da309b9/rtems-docs]:

```
1 c-user: Remove Ada configuration options
2
3 Close #3845.
```

Author: Trac Migrate 2019-12-19T09:19:25.000Z

Original author: sebastian.huber

In [changeset:"51fd6b47b1346d8491843b17a7745ec049cb0d56/rtems" 51fd6b4/rtems]:

```
1 config: Fix CONFIGURE_MAXIMUM_POSIX_THREADS
2
3 Bug was introduced by previous commit.
4
5 Update #3845.
```

Author: Amar Takhar 2024-04-25T20:47:35.076Z

changed the description

4.2.1.153 3844 - Remove CONFIGURE_HAS_OWN_DEVICE_DRIVER_TABLE

Id	3844
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-12-17T08:03:28.000Z
Updated	2024-04-25T20:47:34.511Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3844
Merges	0

Original author: sebastian.huber

Remove the CONFIGURE_HAS_OWN_DEVICE_DRIVER_TABLE configuration option. The RTEMS configuration should be done via explicit configuration options to allow more freedom for implementation changes. The CONFIGURE_HAS_OWN_DEVICE_DRIVER_TABLE configuration option had no test case. There was an attempt to get user feedback about this option:

<https://lists.rtems.org/pipermail/users/2019-April/033131.html>

Author: Trac Migrate 2019-12-19T07:55:51.000Z

Original author: sebastian.huber

In [changeset:"e6f2b545f15fb6fe9d82cb12d40c6b761fac9d48/rtems" e6f2b54/rtems]:

```
1 config: CONFIGURE_HAS_OWN_DEVICE_DRIVER_TABLE
2
3 Remove CONFIGURE_HAS_OWN_DEVICE_DRIVER_TABLE .
4
5 Update #3844.
```

Author: Trac Migrate 2019-12-19T07:57:45.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"89e23dab4332fab8361bd387c339e3c596a15ed4/rtems-docs" 89e23da/rtems-docs]:

```
1 c-user: CONFIGURE_HAS_OWN_DEVICE_DRIVER_TABLE
2
3 Remove CONFIGURE_HAS_OWN_DEVICE_DRIVER_TABLE .
```

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4

5

Close #3844.

Author: Amar Takhar 2024-04-25T20:47:34.617Z

changed the description

4.2.1.154 3843 - Add CONFIGURE_DIRTY_MEMORY

Id	3843
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-12-16T07:51:32.000Z
Updated	2024-04-25T20:47:34.057Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3843
Merges	0

Original author: sebastian.huber

Change the BSP_DIRTY_MEMORY BSP option (build-time configuration) into a CONFIGURE_DIRTY_MEMORY application configuration option (link-time configuration).

Author: Trac Migrate 2020-02-04T14:13:44.000Z

Original author: sebastian.huber

Should this be a boolean feature macro or should we allow to specify the byte used to dirty the memory?

1

#define CONFIGURE_DIRTY_MEMORY

vs.

1

#define CONFIGURE_DIRTY_MEMORY 0xab

Author: Trac Migrate 2020-02-10T08:00:28.000Z

Original author: sebastian.huber

In [changeset:"2d07ce6d2145b4bdc6a9075e0727cde2a50180a6/rtems"2d07ce6/rtems]:

```

1 config: Add CONFIGURE_DIRTY_MEMORY
2
3 Replace the BSP_DIRTY_MEMORY BSP option with a CONFIGURE_DIRTY_MEMORY
4 configuration option.
5
6 Update #3843.

```

Author: Trac Migrate 2020-02-10T12:49:16.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"e57733a9bd31398fb0fbe00e5ab9fb95e68e7830/rtems-docs" e57733a/rtems-docs]:

```

1 c-user: Document CONFIGURE_DIRTY_MEMORY
2
3 Close #3843.

```

Author: Trac Migrate 2020-02-11T06:27:17.000Z

Original author: sebastian.huber

In [changeset:"0cdd4823fc05429ae834a18d8fca67594b249775/rtems-docs" 0cdd482/rtems-docs]:

```

1 c-user: Clarify CONFIGURE_DIRTY_MEMORY
2
3 Update #3843.

```

Author: Trac Migrate 2020-02-11T06:34:22.000Z

Original author: sebastian.huber

In [changeset:"c95724b793297994685804fcdaeb324a23cf1fd7/rtems-docs" c95724b/rtems-docs]:

```

1 c-user: Use contents instead of content
2
3 The memory values are countable.
4
5 Update #3843.

```

Author: Amar Takhar 2024-04-25T20:47:34.094Z

changed the description

4.2.1.155 3841 - Add `rtems_object_get_local_node()`

Id	3841
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-12-12T06:20:47.000Z
Updated	2024-04-25T20:47:33.629Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3841
Merges	0

Original author: sebastian.huber

Add

```

1 /**
2  * @brief Get the local MPCIE node number.
3  *
4  * @return The local MPCIE node number.
5  */
6 uint16_t rtems_object_get_local_node( void );

```

to avoid the direct use of internal data structures.

Author: Trac Migrate 2019-12-13T09:10:38.000Z

Original author: sebastian.huber

In [changeset:"a00dff42cfd4201abe15829baeeb2b6341a0426b/rtems" a00dff42/rtems]:

```

1 rtems: Add and use rtems_object_get_local_node()
2
3 Update #3841.

```

Author: Trac Migrate 2019-12-20T06:18:15.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"2e02ee051a5817240e316d11398bcafd079daefc/rtems-docs" 2e02ee0/rtems-docs]:

```
1 c-user: Document rtems_object_get_local_node()
2
3 Close #3841.
```

Author: Amar Takhar 2024-04-25T20:47:33.668Z

changed the description

4.2.1.156 3840 - Add CONFIGURE_IMFS_ENABLE_MKFIFO

Id	3840
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-12-11T16:35:57.000Z
Updated	2024-04-25T20:47:33.205Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3840
Merges	0

Original author: sebastian.huber

Obsolete undocumented configuration options CONFIGURE_MAXIMUM_FIFOS and CONFIGURE_MAXIMUM_PIPES. Replace them with a new option: CONFIGURE_IMFS_ENABLE_MKFIFO.

Author: Trac Migrate 2019-12-11T16:46:26.000Z

Original author: sebastian.huber

In [changeset:"b1b6dd71d0d4609e81e14cbc94ef3dafa06712ba/rtems" b1b6dd71/rtems]:

```
1 pipe: Use condition variables
2
3 Use self-contained condition variables instead of Classic API barriers.
4 This simplifies the implementation and configuration.
5
6 Update #3840.
```

Author: Trac Migrate 2019-12-13T09:10:31.000Z

Original author: sebastian.huber

In [changeset:"6f6091b3849822e074cd4fbb794f389ba1662a4a/rtems"6f6091b3/rtems]:

```
1 config: Add CONFIGURE_IMFS_ENABLE_MKFIFO
2
3 Obsolete undocumented configuration options CONFIGURE_MAXIMUM_FIFOS and
4 CONFIGURE_MAXIMUM_PIPES. Replace these options with the new
5 CONFIGURE_IMFS_ENABLE_MKFIFO configuration option.
6
7 Update #3840.
```

Author: Trac Migrate 2019-12-13T13:07:13.000Z

Original author: sebastian.huber

- Resolution set to ~"fixed"
- Status changed from *assigned* to *closed*

In [changeset:"d954241f018cb254e22b9a5c2db3f4b65e91a274/rtems-docs"d954241/rtems-docs]:

```
1 c-user: Document CONFIGURE_IMFS_ENABLE_MKFIFO
2
3 Close #3840.
```

Author: Amar Takhar 2024-04-25T20:47:33.242Z

changed the description

4.2.1.157 3838 - Rework work area initialization

Id	3838
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-12-11T14:26:21.000Z
Updated	2024-04-25T20:47:32.633Z
Milestone	5.1
Labels	bsp, priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3838
Merges	0

Original author: sebastian.huber

The work area initialization is done by the BSP through `bsp_work_area_initialize()`. This approach predates the system initialization through the system initialization linker set. The

workspace and C program heap are unconditionally initialized. With the availability of statically initialized threads a system without workspace and C program heap is feasible. Change the work area initialization so that components are initialized on demand. To achieve this:

1. Add a Memory Handler which provides support for low level handling of memory areas which are handed over to the higher level Heap Handler.
2. Add an implementation of `_Memory_Get()` to each BSP (basically a restructuring of the `bsp_work_area_initialize()` implementations).

See optimization opportunity in [#3925](#).

Author: Chris Johns 2019-12-11T16:01:24.000Z

Original author: sebastian.huber

This needs to be explained in more detail.

What happens to BSPs that are not in the tree?

Author: Trac Migrate 2019-12-11T16:31:41.000Z

Original author: sebastian.huber

I am not sure what needs to be explained in more detail. This is mostly a mechanical change which just rearranges existing things a bit differently.

As usual, maintainers of BSPs which are not in the mainline RTEMS source have to pay a price and have to update their BSPs by themselves. With an updated documentation, this shouldn't be an issue.

Author: Chris Johns 2019-12-12T18:08:47.000Z

Original author: sebastian.huber

Replying to [Sebastian Huber](#):

I am not sure what needs to be explained in more detail. This is mostly a mechanical change which just rearranges existing things a bit differently.

I think there are some things, for example take "components are initialized on demand", what is a "component" and what does "initialized on demand" mean?

I am OK with working through the detail but this will have to wait until I find the time. If you do not mind waiting let me know.

As usual, maintainers of BSPs which are not in the mainline RTEMS source have to pay a price and have to update their BSPs by themselves. With an updated documentation, this shouldn't be an issue.

A number of users cannot submit their BSPs and we have attempted to maintain a BSP API. Maybe we should define a

formal BSP interface that cannot be touched without careful consideration?

Author: Trac Migrate 2019-12-12T18:48:09.000Z

Original author: sebastian.huber

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

I am not sure what needs to be explained in more detail. This is mostly a mechanical change which just rearranges existing things a bit differently.

I think there are somethings, for example take “components are initialized on demand”, what is a “component” and what does “initialized on demand” mean?

The two components are the workspace and the C program heap. On demand means that they are only initialized if functions of these components are used by the application.

I am OK with working through the detail but this will have to wait until I find the time. If you do not mind waiting let me know.

As usual, maintainers of BSPs which are not in the mainline RTEMS source have to pay a price and have to update their BSPs by themselves. With an updated documentation, this shouldn't be an issue.

A number of users cannot submit their BSPs and we have attempted to maintain a BSP API. Maybe we should define a formal BSP interface that cannot be touched without careful consideration?

I do this with careful consideration. This change request is the result of a multi year work consisting of lots of small steps to make it possible to fully statically initialize RTEMS. Yes, it breaks the API, but adopting an existing BSP can be done easily in less than one hour. Also if you use a standard linker command file, then you can use the default implementation in your external BSP.

Author: Trac Migrate 2020-02-04T06:03:26.000Z

Original author: sebastian.huber

In [\[changeset:”1cb925717e77910ef5250c83e0d03f13285f33a8/rtems”1cb9257/rtems\]](#):

```

1 score: Add Memory Handler
2
3 Update #3838.

```

Author: Trac Migrate 2020-02-04T06:03:30.000Z

Original author: sebastian.huber

In [changeset:"c477d927e8578adfb35a77ff39542b96da7c2a37/rtems" c477d927/rtems]:

```

1 score: Add _Memory_Fill()
2
3 Update #3838.

```

Author: Trac Migrate 2020-02-04T06:03:34.000Z

Original author: sebastian.huber

In [changeset:"ffa11531700fca97a9be177bac54562de385401f/rtems" ffa1153/rtems]:

```

1 bsps: Add RamEnd to linker command files
2
3 Update #3838.

```

Author: Trac Migrate 2020-02-04T06:03:37.000Z

Original author: sebastian.huber

In [changeset:"34a7a12f48b62f959029172d5e8ffbd2a73739d2/rtems" 34a7a12f/rtems]:

```

1 bsps: Add RTEMS_SYSINIT_BSP_EARLY
2
3 Add new BSP system initialization step for work to be performed before
4 the work areas are initialized.
5
6 Update #3838.

```

Author: Trac Migrate 2020-02-04T06:03:41.000Z

Original author: sebastian.huber

In [changeset:"c184b0cf3117c7872f465ef5e41aeb3fc65d1adb/rtems" c184b0c/rtems]:

```

1 stackchk: Add RTEMS_SYSINIT_ISR_STACK
2
3 Use a dedicated system initialization step for the stack checker
4 interrupt stack support.
5
6 Update #3838.

```

Author: Trac Migrate 2020-02-04T06:03:45.000Z

Original author: sebastian.huber

In [changeset:"07e2eacf8977121ef342e2d3c323ea6c997307b8/rtems"07e2eac/rtems]:

```

1 bsp: Remove uses of BSP_GET_WORK_AREA_DEBUG
2
3 The code covered by BSP_GET_WORK_AREA_DEBUG was basically dead code
4 since there was no normal way to activate it (e.g. via a BSP
5 configuration option). A follow up patch will bring back this feature
6 through a CONFIGURE_VERBOSE_SYSTEM_INITIALIZATION configuration option.
7
8 Update #3838.

```

Author: Trac Migrate 2020-02-04T06:03:48.000Z

Original author: sebastian.huber

In [changeset:"eea21eaca117ecd98afea164e1808d6530ef487f/rtems"eea21eac/rtems]:

```

1 bsp: Rework work area initialization
2
3 The work area initialization was done by the BSP through
4 bsp_work_area_initialize(). This approach predated the system
5 initialization through the system initialization linker set. The
6 workspace and C program heap were unconditionally initialized. The aim
7 is to support RTEMS application configurations which do not need the
8 workspace and C program heap. In these configurations, the workspace
9 and C prgram heap should not get initialized.
10
11 Change all bsp_work_area_initialize() to implement _Memory_Get()
12 instead. Move the dirty memory, sbrk(), per-CPU data, workspace, and
13 malloc() heap initialization into separate system initialization steps.
14 This makes it also easier to test the individual initialization steps.
15
16 This change adds a dependency to _Heap_Extend() to all BSPs. This
17 dependency will be removed in a follow up change.
18
19 Update #3838.

```

Author: Trac Migrate 2020-02-04T06:03:52.000Z

Original author: sebastian.huber

In [changeset:"f7c5f9436031702bb8cbc25bb54aad3d3425b028/rtems" f7c5f94/rtems]:

```
1 sysinit: Add RTEMS_SYSINIT_ORDER_LAST_BUT_[None..None](../compare/None..
  ↪.None)
2
3 Update #3838.
```

Author: Trac Migrate 2020-02-04T06:03:56.000Z

Original author: sebastian.huber

In [changeset:"c344e5828c3e8447a6164402f5786c8b0fbfb6a2/rtems" c344e58/rtems]:

```
1 Use RTEMS_SYSINIT_ORDER_LAST_BUT_5
2
3 Use RTEMS_SYSINIT_ORDER_LAST_BUT_5 instead of RTEMS_SYSINIT_ORDER_LAST
4 to allow applications and support functions to place system
5 initialization handlers behind the standard handlers.
6
7 Update #3838.
```

Author: Trac Migrate 2020-02-04T06:22:23.000Z

Original author: sebastian.huber

In [changeset:"813ada57f7efa3fb6a4a50616c4cd4abe45cec59/rtems-docs" 813ada5/rtems-docs]:

```
1 c-user: Update system initialization chapter
2
3 Update #2408.
4 Update #3838.
```

Author: Trac Migrate 2020-02-04T08:58:48.000Z

Original author: sebastian.huber

In [changeset:"420525079c4b66025b1a924be13f29f54d288942/rtems-docs" 4205250/rtems-docs]:

```
1 bsp-howto: Rework system initialization chapter
2
```

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3 Update [#2852](#).
 4 Update [#3838](#).

Author: Trac Migrate 2020-02-04T10:26:04.000Z

Original author: sebastian.huber

In [\[changeset:"ccaec9661f66089e45ee34c53ec4519e803fe444/rtems" ccaec966/rtems\]](#):

1 libtests/malloc04: Fix typo
 2
 3 Update [#3838](#).

Author: Trac Migrate 2020-02-14T09:06:57.000Z

Original author: sebastian.huber

In [\[changeset:"33d89aff99a01f970d03e4bc1a0d958b4c7db868/rtems" 33d89af/rtems\]](#):

1 smpfatal09: Fix test case
 2
 3 Update [#3838](#).

Author: Trac Migrate 2020-04-02T08:49:21.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

1 The work area initialization is done by the BSP through `bsp_work_area_`
 ↪ `initialize()`. This approach predates the system initialization_
 ↪ through the system initialization linker set. The workspace and C_
 ↪ program heap are unconditionally initialized. With the availability_
 ↪ of statically initialized threads a system without workspace and C_
 ↪ program heap is feasible. Change the work area initialization so that_
 ↪ components are initialized on demand. To achieve this:
 2
 3 1. Add a Memory Handler which provides support for low level handling_
 ↪ of memory areas which are handed over to the higher level Heap_
 ↪ Handler.
 4
 5 2. Add an implementation of `_Memory_Get()` to each BSP (basically a_
 ↪ restructuring of the `bsp_work_area_initialize()` implementations).
 6

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```

7 + See optimization opportunity in #3925.
8 - 3. Add a _Memory_Get_workspace_handler_initialize() implementation to_
   ↳ each BSP which returns a workspace handler initialization function_
   ↳ which can initialize the workspace (A) from one memory area or (B)_
   ↳ multiple memory areas (needs _Heap_Extend()). Only two BSPs need (B).
9 -
10 - 4. Add a _Memory_Get_malloc_initialize() implementation similar to 3.

```

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Author: Amar Takhar 2024-04-25T20:47:32.685Z

changed the description

4.2.1.158 3837 - Rename CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR

Id	3837
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-12-11T08:03:54.000Z
Updated	2024-04-25T20:47:32.191Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::duplicate, rtems::config, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3837
Merges	0

Original author: sebastian.huber

Rename CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR in CONFIGURE_MAXIMUM_FILE_DESCRIPTOR. Issue a C preprocessor warning if CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR is used and map it to CONFIGURE_MAXIMUM_FILE_DESCRIPTOR.

Author: Trac Migrate 2019-12-17T08:20:40.000Z

Original author: sebastian.huber

- **Resolution** set to ~"duplicate"
- **Status** changed from *assigned* to *closed*

Duplicate of [#3753](#).

Author: Amar Takhar 2024-04-25T20:47:32.229Z


```

1 c-user: Move unlimited configuration options
2
3 Rename unlimited subsection headers.
4
5 Update #3836.

```

Author: Trac Migrate 2019-12-11T08:07:38.000Z

Original author: sebastian.huber

In [changeset:"a184ff463fd82092714f48468c9cfd0601c359ca/rtems-docs"
a184ff4/rtems-docs]:

```

1 c-user: Move CONFIGURE_MEMORY_OVERHEAD
2
3 Move CONFIGURE_MEMORY_OVERHEAD to general system configuration.
4 Remove now empty "Seldom Used Configuration Parameters" section.
5
6 Update #3836.

```

Author: Trac Migrate 2019-12-11T08:07:40.000Z

Original author: sebastian.huber

In [changeset:"579d6f2def5a0d026b6ba2a866bc8fea96c25038/rtems-docs"
579d6f2/rtems-docs]:

```

1 c-user: CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTORS
2
3 Move CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR to general system
4 configuration. Remove now empty "C Library Support Configuration"
5 section.
6
7 Update #3836.

```

Author: Trac Migrate 2020-03-09T06:43:14.000Z

Original author: sebastian.huber

In [changeset:"851e4df3db75f23e798370a1be5315fbf1091f14/rtems-docs"
851e4df/rtems-docs]:

```

1 c-user: Remove copyright from Petr Benes
2
3 The content introduced by a commit in the RTEMS main repository
4
5 commit 418de420a05609ba8919822b553706963a8d3a7b
6 Author: Joel Sherrill <joel.sherrill@OARcorp.com>

```

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```

7 Date:   Wed Oct 5 19:59:47 2011 +0000
8
9 2011-10-05      Joel Sherrill <joel.sherrill@oarcorp.com>
10 Petr Benes <benesp16@fel.cvut.cz>
11
12 PR 1912/doc
13 * user/conf.t, user/schedule.t: Rework to add scheduler specific
14 information.
15
16 is no longer in this file. According to the file history, this was the
17 only content introduced by Petr Benes. Also during the relicensing of
18 the documentation to CC-BY-SA-4.0 in 2016 it was proclaimed that OAR was
19 the only copyright holder of the RTEMS documentation present in the
20 RTEMS main repository.
21
22 Update #3836.

```

Author: Trac Migrate 2020-03-09T06:43:16.000Z

Original author: sebastian.huber

In [changeset:"a174ae4bfa609b4749463ea91322a88eb7642e10/rtems-docs"
a174ae4/rtems-docs]:

```

1 c-user: Clarify BSP related configuration options
2
3 Sort options alphabetically.
4
5 Update #3836.

```

Author: Trac Migrate 2020-03-09T06:43:19.000Z

Original author: sebastian.huber

In [changeset:"988e7ca06358f95c2eace3157523ac35cf8a111f/rtems-docs"
988e7ca/rtems-docs]:

```

1 c-user: Clarify message queue configuration
2
3 Update #3836.

```

Author: Trac Migrate 2020-03-09T06:43:21.000Z

Original author: sebastian.huber

In [changeset:"e3f68191afdc4bcc903dc14a598fa0b79b05f745/rtems-docs"
e3f6819/rtems-docs]:

```

1 c-user: Canonicalize configuration section names
2
3 Update #3836.

```

Author: Trac Migrate 2020-03-09T06:43:23.000Z

Original author: sebastian.huber

In [changeset:"7a414f92631dd356f9dea27f1a210bcf1acf46f9/rtems-docs"
7a414f9/rtems-docs]:

```

1 c-user: Sort configuration options alphabetically
2
3 Update #3836.

```

Author: Trac Migrate 2020-03-09T06:43:25.000Z

Original author: sebastian.huber

In [changeset:"c078afb63796a4c079787a6835ca164a420102c8/rtems-docs"
c078afb/rtems-docs]:

```

1 c-user: Minor format fixes
2
3 Update #3836.

```

Author: Trac Migrate 2020-03-12T09:32:40.000Z

Original author: sebastian.huber

In [changeset:"a526872600d6df878fc55a7ac2d5d6bb079d095e/rtems-docs"
a526872/rtems-docs]:

```

1 c-user: Split up configuring_a_system.rst
2
3 Introduce an index file for this chapter. This helps to generate some
4 sections from the specification in the future. Start with moving
5 "Introduction" up to "Unlimited Objects" to a new file.
6
7 Update #3836.

```

Author: Trac Migrate 2020-03-12T09:32:42.000Z

Original author: sebastian.huber

In [changeset:"ac9d49d53531e309ef2dc57fcd68fbd999838bd3/rtems-docs"
ac9d49d/rtems-docs]:

```
1 c-user: Move "General System Configuration"
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-12T09:32:44.000Z

Original author: sebastian.huber

In [changeset:"bf995cf8d93d384926d1084378d6e0ca4b77f8f8/rtems-docs"
bf995cf/rtems-docs]:

```
1 c-user: Move "Classic API Configuration"
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-12T09:32:46.000Z

Original author: sebastian.huber

In [changeset:"a9e6a1dbf8bf840fc880e1be0fa8468a5acf921e/rtems-docs"
a9e6a1d/rtems-docs]:

```
1 c-user: Move "Classic API Initialization Task Configuration"
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-12T09:32:48.000Z

Original author: sebastian.huber

In [changeset:"16b0d3f177a610a44289ab74208268928654e17a/rtems-docs"
16b0d3f/rtems-docs]:

```
1 c-user: Move "POSIX API Configuration"
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-12T09:32:50.000Z

Original author: sebastian.huber

In [changeset:"2a761cfbb198929d16d19771c140bc1802ede521/rtems-docs"
2a761cf/rtems-docs]:

```
1 c-user: Move "POSIX Initialization Thread Configuration"
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-12T09:32:52.000Z

Original author: sebastian.huber

In [changeset:"bdd17e5c0a5ca19b6b8a2c5f4a19d64368af0b9a/rtems-docs"
bdd17e5/rtems-docs]:

```
1 c-user: Move "Task Stack Allocator Configuration"
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-12T09:32:55.000Z

Original author: sebastian.huber

In [changeset:"4d74cbd8fc988de71e89ac2fa651b01d63a1f2df/rtems-docs"
4d74cbd/rtems-docs]:

```
1 c-user: Move "Message Queue Buffer Configuration"
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-12T09:32:57.000Z

Original author: sebastian.huber

In [changeset:"c0a70dba6154f605226b2e1f763875f8d00f9a7b/rtems-docs"
c0a70db/rtems-docs]:

```
1 c-user: Move "Filesystem Configuration"
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-12T09:32:59.000Z

Original author: sebastian.huber

In [changeset:"1af97adca298788caa2b5872b4d66a9258e79a5e/rtems-docs"
1af97ad/rtems-docs]:

```
1 c-user: Move "Block Device Cache Configuration"
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-12T09:33:01.000Z

Original author: sebastian.huber

In [changeset:"4bb586beba38b8a1d3466278b661332d54841ea/rtems-docs"
4bb586b/rtems-docs]:

```
1 c-user: Move "BSP Related Configuration Options"  
2  
3 Update #3836.
```

Author: Trac Migrate 2020-03-12T09:33:03.000Z

Original author: sebastian.huber

In [changeset:"38032b0ccad4bde197a832518f9d64df33e97b1d/rtems-docs"
38032b0/rtems-docs]:

```
1 c-user: Move "Idle Task Configuration"  
2  
3 Update #3836.
```

Author: Trac Migrate 2020-03-12T09:33:05.000Z

Original author: sebastian.huber

In [changeset:"275f4a049c2f21dd3aab33201c4b76a5ece1ed6d/rtems-docs"
275f4a0/rtems-docs]:

```
1 c-user: Move "General Scheduler Configuration"  
2  
3 Update #3836.
```

Author: Trac Migrate 2020-03-12T09:33:07.000Z

Original author: sebastian.huber

In [changeset:"020d2e7e85baeca0d8b6d73536f1d30376e34a12/rtems-docs"
020d2e7/rtems-docs]:

```
1 c-user: Move "Clustered Scheduler Configuration"  
2  
3 Update #3836.
```

Author: Trac Migrate 2020-03-12T09:33:09.000Z

Original author: sebastian.huber

In [changeset:"41ac3da942efd60525363b8fe4fbf1ee04eac51c/rtems-docs"
41ac3da/rtems-docs]:

```

1 c-user: Move "Device Driver Configuration"
2
3 Update #3836.

```

Author: Trac Migrate 2020-03-12T09:33:11.000Z

Original author: sebastian.huber

In [changeset:"088a1f856f6e740700bb6f2d3b2ab5ecc205e5ea/rtems-docs"
088a1f8/rtems-docs]:

```

1 c-user: Move "Multiprocessing Configuration"
2
3 Update #3836.

```

Author: Trac Migrate 2020-03-12T09:33:13.000Z

Original author: sebastian.huber

In [changeset:"b71fb436fd085b647c0c39a08d30226ff5267edc/rtems-docs"
b71fb43/rtems-docs]:

```

1 c-user: Move "PCI Library Configuration"
2
3 Update #3836.

```

Author: Trac Migrate 2020-03-12T09:33:15.000Z

Original author: sebastian.huber

In [changeset:"a388de94168c1dc7544569e2f329a301d28182bf/rtems-docs"
a388de9/rtems-docs]:

```

1 c-user: Move "Event Recording Configuration"
2
3 Update #3836.

```

Author: Trac Migrate 2020-03-12T09:33:17.000Z

Original author: sebastian.huber

In [changeset:"1fd339b391d81ec82fca6fb28b0bc68b9b638a61/rtems-docs"
1fd339b/rtems-docs]:

```

1 c-user: Move "Ada Configuration"
2
3 Update #3836.

```

Author: Trac Migrate 2020-03-12T09:33:19.000Z

Original author: sebastian.huber

In [changeset:"88dd013b42bc731e1892802eefe1768ccbd5898d/rtems-docs"
88dd013/rtems-docs]:

```
1 c-user: Move "Obsolete Configuration Options"
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-13T12:29:19.000Z

Original author: sebastian.huber

In [changeset:"03a735f89611d7fc031190b0e460f062a25a42d4/rtems-docs"
03a735f/rtems-docs]:

```
1 c-user: Clarify message buffer configuration
2
3 The help macro CONFIGURE_MESSAGE_BUFFERS_FOR_QUEUE() is not a
4 configuration option. Move it into the documentation of the
5 CONFIGURE_MESSAGE_BUFFER_MEMORY configuration option. Move this option
6 to the general system configuration group.
7
8 Update #3836.
```

Author: Trac Migrate 2020-03-13T12:29:21.000Z

Original author: sebastian.huber

In [changeset:"b34f2deba836730ebf21dac5ee435ab505573d29/rtems-docs"
b34f2de/rtems-docs]:

```
1 c-user: Reorder configuration option groups
2
3 Sort the configuration option groups according to the likelihood a user
4 will define options of a group.
5
6 Update #3836.
```

Author: Trac Migrate 2020-03-17T13:13:47.000Z

Original author: sebastian.huber

In [changeset:"f3076bcd52ad1acf4ed5a0147a4ade659c6f8716/rtems-docs"
f3076bc/rtems-docs]:


```
1 c-user: Sort configuration options alphabetically
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-17T13:42:18.000Z

Original author: sebastian.huber

In [changeset:"5fb9a1c75d708add22f4ca27b3920bd16bbb99c1/rtems-docs"
5fb9a1c/rtems-docs]:

```
1 c-user: Add missing configuration option notes
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-17T13:42:20.000Z

Original author: sebastian.huber

In [changeset:"c3ebd832d20e3cc93822288bbf14c7027e9dade9/rtems-docs"
c3ebd83/rtems-docs]:

```
1 c-user: Fix sorting in filesystem configuration
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-17T14:05:46.000Z

Original author: sebastian.huber

In [changeset:"5e54ffe8191970ff496a03176128e2880a447314/rtems-docs"
5e54ffe/rtems-docs]:

```
1 c-user: Add configuration option index entry
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-17T14:06:11.000Z

Original author: sebastian.huber

In [changeset:"f75e0bee4811bb33210a48fe573716c0bb19d5a1/rtems-docs"
f75e0be/rtems-docs]:

```
1 c-user: Fix format
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-17T14:27:00.000Z

Original author: sebastian.huber

In [changeset:"7a8d697d7318f3ab9c905433e52f7ae6334f8617/rtems-docs"
7a8d697/rtems-docs]:

```
1 c-user: Add reference to proxies
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-18T06:32:46.000Z

Original author: sebastian.huber

In [changeset:"79fb6fddf831586231b0b101790b59f11e708bb5/rtems-docs"
79fb6fd/rtems-docs]:

```
1 c-user: Canonicalize configuration option groups
2
3 Update #3836.
```

Author: Trac Migrate 2020-03-30T06:49:24.000Z

Original author: sebastian.huber

In [changeset:"0103b685c60eab68ce04951ecc515832e28bbad0/rtems-docs"
0103b68/rtems-docs]:

```
1 c-user: Fix typo in file name
2
3 Update #3836.
```

Author: Trac Migrate 2020-04-02T07:47:20.000Z

Original author: sebastian.huber

In [changeset:"39ca06c4921ae713a5dfc2d16d419a1db55e0365/rtems-docs"
39ca06c/rtems-docs]:

```
1 c-user: Clarify config options use
2
3 Update #3836.
```

Author: Trac Migrate 2020-04-02T07:47:22.000Z

Original author: sebastian.huber

In [changeset:"c95e3e31141374701e9f32abef0a5b7dedc42960/rtems-docs" c95e3e3/rtems-docs]:

```
1 C-user: Move CONFIGURE_MAXIMUM_PRIORITY
2
3 Move this option to the scheduler configuration options.
4
5 Update #3836.
```

Author: Trac Migrate 2020-04-02T08:40:52.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```
1 - The application configuration is currently specified by the RTEMS_
   ↳ Classic API Guide, the test cases, and the implementation. Add the_
   ↳ application configuration to specification items maintained by_
   ↳ Doorstop to "spec/config" in the RTEMS sources. Document the_
   ↳ configuration related specification items in the RTEMS Software_
   ↳ Engineering manual. Add validation tests using the RTEMS Test_
   ↳ Framework. Add C preprocessor error tests to the new build system, e.
   ↳ g. test `#error` and `#warning` directives.
2 + The application configuration is currently specified by the RTEMS_
   ↳ Classic API Guide, the test cases, and the implementation. Add the_
   ↳ application configuration to specification items maintained by_
   ↳ Doorstop to "spec/acfg" in a repository. Generate the documentation_
   ↳ from the specification items.
3 +
4 + The specification and the generator scripts are contained in:
5 +
6 + https://git.rtems.org/sebh/rtems-qual.git
```

Author: Trac Migrate 2020-04-02T08:41:43.000Z

Original author: sebastian.huber

- **Summary** changed from *Specify and test application configuration* to *Specify the application configuration options*

Author: Trac Migrate 2020-04-03T06:58:23.000Z

Original author: sebastian.huber

In [changeset:"7e33a80da53cf5638c1ca21a70ebae89a4a1f67d/rtems" 7e33a80/rtems]:

```
1 config: Remove filesystem entry config options
2
3 Remove the following undocumented configuration options:
4
5 * CONFIGURE_FILESYSTEM_ENTRY_DOSFS
6
7 * CONFIGURE_FILESYSTEM_ENTRY_FTPFS
8
9 * CONFIGURE_FILESYSTEM_ENTRY_IMFS
10
11 * CONFIGURE_FILESYSTEM_ENTRY_JFFS2
12
13 * CONFIGURE_FILESYSTEM_ENTRY_NFS
14
15 * CONFIGURE_FILESYSTEM_ENTRY_RFS
16
17 * CONFIGURE_FILESYSTEM_ENTRY_TFTPFS
18
19 Update #3836.
```

Author: Trac Migrate 2020-04-03T06:59:38.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

All configuration options are now documented and specified through the documentation.

Author: Amar Takhar 2024-04-25T20:47:31.772Z

changed the description

4.2.1.160 3835 - Support statically allocated threads

Id	3835
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-12-09T09:09:11.000Z
Updated	2024-04-25T20:47:31.156Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3835
Merges	0

Original author: sebastian.huber

In some applications it is desirable to have statically allocated resources for all operating system objects.

In addition to the thread control block, up to four memory areas are currently allocated by a thread:

1. stack area
2. TLS area
3. FP context
4. thread queue heads

Currently the FP context and the TLS area are separately allocated from the workspace. This complicates the workspace size estimate. Add the FP context and TLS size to the stack size and place them in the stack area. This makes it also possible to move the stack area allocation out of `_Thread_Initialize()`. Use a hook to get the thread queue heads which is configured depending on the unlimited objects option of the configuration.

Statically allocate the stacks for internal threads (e.g. idle and MPCIE receive server) in a dedicated linker section (similar to the interrupt stacks). Mention this in the Classic API Guide configuration chapter.

Author: Chris Johns 2019-12-09T11:47:18.000Z

Original author: sebastian.huber

Does this assume TLS is a fixed size? I would need to revisit how TLS support would be managed in the dynamic loading situation. At a guess I suspect it will break possible solutions and that concerns me. I would prefer we do not wedge libdl in to a corner with change for a use case I do not fully understand. Maybe a detailed use case would help.

Author: Trac Migrate 2019-12-09T11:55:41.000Z

Original author: sebastian.huber

Nothing stops you from reallocating the TLS area on demand. In the worst case you waste a bit of memory. I don't think this change here will add constraints to libdl.

Author: Trac Migrate 2019-12-09T11:58:24.000Z

Original author: sebastian.huber

For clarification, the pointer to the TLS area in the thread control block will remain as is.

Author: Chris Johns 2019-12-09T12:24:02.000Z

Original author: sebastian.huber

Great, that helps. Thanks.

Author: Joel Sherrill 2019-12-09T12:38:58.000Z

Original author: sebastian.huber

In at least two applications I have helped with that had custom allocators, this sounds like it might not work. They had special mmu permissions on their stack memory.

Author: Trac Migrate 2019-12-09T12:51:01.000Z

Original author: sebastian.huber

I would consider the FP context and the thread-local storage of a thread to be in the same access domain. These data areas should be private to a thread.

Author: Joel Sherrill 2019-12-12T18:09:46.000Z

Original author: sebastian.huber

Replying to [Sebastian Huber](#):

I would consider the FP context and the thread-local storage of a thread to be in the same access domain. These data areas should be private to a thread.

I don't know if this was intended to respond to my concern with custom stack allocators or not. In the systems I know have used this, the memory is not available (mapped dynamically) or known statically (RTEMS runs in virtual address space).

How does this work with custom stack allocators?

Author: Trac Migrate 2019-12-12T18:54:18.000Z

Original author: sebastian.huber

Replying to [Joel Sherrill](#):

Replying to [Sebastian Huber](#):

I would consider the FP context and the thread-local storage of a thread to be in the same access domain. These data areas should be private to a thread.

I don't know if this was intended to respond to my concern with custom stack allocators or not. In the systems I know have used this, the memory is not available (mapped dynamically) or known statically (RTEMS runs in virtual address space). How does this work with custom stack allocators?

The availability of statically initialized threads doesn't mean that everyone has to use them. They are optional. I also have no intention to remove the custom stack allocator. What changes is that the memory area allocated for the stack is used also to contain the thread-local storage and the FP context. These memory areas are private to a thread and non-executable. I really don't know what a potential problem could be with a custom allocator.

I plan to statically initialize the stacks for the idle threads and the MPCIE receive server thread. They will reside in special linker sections so that a BSP or application can control the placement in memory.

Author: Trac Migrate 2020-01-03T06:37:06.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 In some applications it is desirable to have statically allocated_
  ↪resources for all operating system objects.
2
3 In addition to the thread control block, up to four memory areas are_
  ↪currently allocated by a thread:
4
5 1. stack area
6
7 2. TLS area
8
9 3. FP context
10
11 4. thread queue heads
12
13 Currently the FP context and the TLS area are separately allocated from_
  ↪the workspace. This complicates the workspace size estimate. Add the_
  ↪FP context and TLS size to the stack size and place them in the stack_
  ↪area. This makes it also possible to move the stack area allocation_
  ↪out of _Thread_Initialize(). Use a hook to get the thread queue heads_
  ↪which is configured depending on the unlimited objects option of the_
  ↪configuration.
14 +
15 + Statically allocate the stacks for internal threads (e.g. idle and_
  ↪MPCIE receive server) in a dedicated linker section (similar to the_
  ↪interrupt stacks). Mention this in the Classic API Guide_
  ↪configuration chapter.
```

Author: Trac Migrate 2020-02-12T15:12:08.000Z

Original author: sebastian.huber

In [changeset:"bf39a9e2a8f94f44a0bb0415e8a15a1a51418568/rtems"bf39a9e/rtems]:

```
1 score: Remove superfluous FP types/defines
2
3 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:12:11.000Z

Original author: sebastian.huber

In [changeset:"a0211fc9f9883d0a1182548de11ab0e0505a81c6/rtems"a0211fc9/rtems]:

```
1 score: Simplify thread stack allocation
2
3 Remove superfluous Thread_Control::Start::stack member.
4
5 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:12:14.000Z

Original author: sebastian.huber

In [changeset:"0bde56b1b4ef7468188712c86e6bd2793532ddc9/rtems"0bde56b/rtems]:

```
1 score: Simplify thread stack free
2
3 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:12:17.000Z

Original author: sebastian.huber

In [changeset:"0e1ac9171a4342daecdf99378f7c7bb8bdd8a227/rtems"0e1ac917/rtems]:

```
1 score: Remove _Stack_Ensure_minimum() call
2
3 This call is superfluous since _Thread_Initialize() will do this also.
4
5 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:12:21.000Z

Original author: sebastian.huber

In [changeset:"fc398fde77d25c086e109403eddd6de267982653/rtems"fc398fd/rtems]:

```

1 score: Simplify FP context allocation
2
3 Use the stack area to allocate the FP context. This considerably
4 simplifies the application configuration since the task count no longer
5 influences the configured work space size. With this change the stack
6 space size is overestimated since an FP context for each thread is
7 accounted. Memory constraint applications can use the stack size for
8 fine tuning.
9
10 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:12:24.000Z

Original author: sebastian.huber

In [changeset:"f4dbf37dd432623c345f8e19f78a4eb01fcedb8b/rtems"f4dbf37d/rtems]:

```

1 score: Simplify TLS area allocation
2
3 Use the stack area to allocate the TLS area.
4
5 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:12:27.000Z

Original author: sebastian.huber

In [changeset:"00c7ad4cab30aba80639ace29526c1efc2779074/rtems"00c7ad4/rtems]:

```

1 score: Split stack allocator configuration
2
3 This allows the linker garbage collection to perform its work.
4
5 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:12:31.000Z

Original author: sebastian.huber

In [changeset:"a08dcb2f7c7c883559e10c389404a4dc751376fa/rtems"a08dcb2/rtems]:

```

1 score: Add Thread_Configuration
2
```

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```

3 Add the Thread_Configuration structure to reduce the parameter count of
4 _Thread_Initialize(). This makes it easier to add more parameters in
5 the future. It simplifies the code generation since most architectures
6 do not have that many registers available for function parameters.
7
8 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:12:34.000Z

Original author: sebastian.huber

In [changeset:"4c9deb6c10ad2ccab37da5723748841dbc73f0d2/rtems" 4c9deb6c/rtems]:

```

1 score: Add _Stack_Extend_size()
2
3 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:12:37.000Z

Original author: sebastian.huber

In [changeset:"01d59443b06ab351039cbc63a688cfa87f196ea0/rtems" 01d5944/rtems]:

```

1 score: Move thread stack allocation
2
3 Move thread stack allocation to caller side of _Thread_Initialize().
4
5 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:12:40.000Z

Original author: sebastian.huber

In [changeset:"32991495b48d1b5e4804b2f10a67a800f4608e75/rtems" 32991495/rtems]:

```

1 score: Statically allocate idle/MPCI stacks
2
3 Place idle and MPCPI stacks into extra linker sections. This can be
4 optionally used by applications to control the placement of the stacks.
5
6 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:12:43.000Z

Original author: sebastian.huber

In [changeset:"6f3bc0e3201c903773719c369081bca06f891f1a/rtems" 6f3bc0e/rtems]:

```
1 score: Add _Objects_Free_objects_block()
2
3 This is a preparation to allow a customization of the objects
4 information extend.
5
6 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:12:47.000Z

Original author: sebastian.huber

In [changeset:"24851567c38f573e9176529e9ca431fbf80c6cef/rtems" 2485156/rtems]:

```
1 score: Split up objects allocation
2
3 Split up the different objects allocation methods into separate
4 functions. This helps to avoid a dependency on the workspace in case no
5 objects or a static set of objects is configured.
6
7 Change license to BSD-2-Clause according to file histories.
8
9 Update #3053.
10 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:12:50.000Z

Original author: sebastian.huber

In [changeset:"61357479894b08c9017ba39f90572c57dc307869/rtems" 6135747/rtems]:

```
1 score: Split up objects free
2
3 Split up the different objects free methods into separate functions.
4 This helps to avoid a dependency on the workspace in case no objects or
5 a static set of objects is configured.
6
7 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:12:53.000Z

Original author: sebastian.huber

In [changeset:"8e118f2275bf1093b0ed3c66a7bd7535fd61b29e/rtems"8e118f22/rtems]:

```
1 score: Inline _Objects_Namespace_remove_u32()
2
3 This function is simple enough to be inlined.
4
5 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:12:57.000Z

Original author: sebastian.huber

In [changeset:"36e59b2bbc8737c4ba1b93ac0f695528a36844c9/rtems"36e59b2/rtems]:

```
1 score: _Objects_Extend_information()
2
3 Return block index in _Objects_Extend_information(). This allows to
4 customize the objects information extend.
5
6 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:13:00.000Z

Original author: sebastian.huber

In [changeset:"8ff1af16551eedd7e98af6c65a91bb62b9403991/rtems"8ff1af1/rtems]:

```
1 score: Add _Freechain_Is_empty()
2
3 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:13:03.000Z

Original author: sebastian.huber

In [changeset:"4eab96bbb421018c17f984c1c3a4220abe16c788/rtems"4eab96b/rtems]:

```
1 score: Add _Freechain_Pop()
2
3 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:13:06.000Z

Original author: sebastian.huber

In [changeset:"8a43adbe47454689149bac27adc45439eab44965/rtems" 8a43adb/rtems]:

```
1 score: Add _Freechain_Extend()
2
3 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:13:10.000Z

Original author: sebastian.huber

In [changeset:"dd9e50102b6829c018b6ea24e925cf26e924273f/rtems" dd9e501/rtems]:

```
1 score: Add _Objects_Activate_unlimited()
2
3 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:13:13.000Z

Original author: sebastian.huber

In [changeset:"fc32904f4a270976961d61385be44c56fcc6fd01/rtems" fc32904/rtems]:

```
1 score: Add _Objects_Allocate_with_extend()
2
3 Update #3835.
```

Author: Trac Migrate 2020-02-12T15:13:16.000Z

Original author: sebastian.huber

In [changeset:"d252e20ab5717afea2ac89543ab4e0d379434bb0/rtems" d252e20a/rtems]:

```
1 score: Simplify _Thread_Initialize()
2
3 Allocate new thread queue heads during objects information extend. This
4 removes an error case and the last dependency on the workspace in
5 _Thread_Initialize().
6
7 Update #3835.
```

Author: Trac Migrate 2020-02-25T08:19:35.000Z

Original author: sebastian.huber

In [changeset:"ed15643221ca252e8a82a5d771487a51d8bb094b/rtems-tools" ed15643/rtems-tools]:

```
1 linkers: Update due to API changes
2
3 Update #3835.
```

Author: Trac Migrate 2020-02-25T13:51:04.000Z

Original author: sebastian.huber

In [changeset:"01c97e643a83c80093e0390a5ebc3465dec60426/rtems" 01c97e64/rtems]:

```
1 score: Fix label defined but not used warning
2
3 Update #3835.
```

Author: Trac Migrate 2020-03-05T14:33:16.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"c6c06aecbb78b1b6baedb2a0863fc244e96a671d/rtems-docs" c6c06ae/rtems-docs]:

```
1 c-user: Document task memory
2
3 Close #3835.
```

Author: Trac Migrate 2022-10-14T09:41:47.000Z

Original author: sebastian.huber

In [changeset:"15bba4aecfca407d67e495b7a26c84929202d05f/rtems" 15bba4ae/rtems]:

```
1 score: Move Thread_Control::Registers member
2
3 Place this member placed directly after the end of the common block so_
4   ↳ that
5 the structure offsets are as small as possible. This helps on_
6   ↳ instruction
7 set architectures with a very limited range for intermediate values. _
8   ↳ For
9 example, see the __aeabi_read_tp() implementation for ARM Thumb-1.
```

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7
8 Update [#3835](#).

Author: Trac Migrate 2022-10-14T09:41:49.000Z

Original author: sebastian.huber

In [changeset:"4c89fbcd316ca99fa16a0acc31f88fb80cb3060f/rtems"
4c89fbcd/rtems]:

1 score: Add CPU_THREAD_LOCAL_STORAGE_VARIANT
2
3 Update [#3835](#).

Author: Trac Migrate 2022-10-14T09:42:01.000Z

Original author: sebastian.huber

In [changeset:"45ee958552ca35b6834985718ecd59b27fc52f86/rtems"
45ee958/rtems]:

1 config: Add CONFIGURE_IDLE_TASK_STORAGE_SIZE
2
3 By default, allocate the IDLE task storage areas **from the** RTEMS_
↪ Workspace.
4 This avoids having to estimate the thread-local storage size **in** the_
↪ default
5 configuration.
6
7 Add the application configuration option CONFIGURE_IDLE_TASK_STORAGE_
↪ SIZE to
8 request a static allocation of the task storage area **for** IDLE tasks.
9
10 Update [#3835](#).
11 Update [#4524](#).

Author: Trac Migrate 2022-10-14T09:42:03.000Z

Original author: sebastian.huber

In [changeset:"64fbeaa0d1b4321cb439923c86993d134fbd3acb/rtems"
64fbeaa/rtems]:

1 score: INTERNAL_ERROR_IDLE_THREAD_STACK_TOO_SMALL
2
3 Ensure that the IDLE storage allocator did allocate a sufficiently large_
↪ area.

(continues on next page)

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```
4
5 Update #3835.
6 Update #4524.
```

Author: Trac Migrate 2022-11-10T09:58:49.000Z

Original author: sebastian.huber
In [changeset:"8f6dd3ca1fa9c7772746fcd2f487e504e6968598/rtems"
8f6dd3c/rtems]:

```
1 arm: Fix Armv7-M TLS support
2
3 Set the thread ID register in the CPU context.
4
5 Update #3835.
6 Close #4753.
```

Author: Amar Takhar 2024-04-25T20:47:31.207Z

changed the description

4.2.1.161 3834 - Simplify clock driver

Id	3834
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-12-09T08:55:27.000Z
Updated	2024-04-25T20:47:30.702Z
Milestone	5.1
Labels	device, priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3834
Merges	0

Original author: sebastian.huber
Use a system initialization handler to initialize the clock driver instead of using a legacy IO driver. This makes the system initialization more modular and removes a bit of overhead introduced by the legacy IO driver dependency.

Author: Trac Migrate 2019-12-11T08:06:35.000Z

Original author: sebastian.huber

In [changeset:"bb99cd0d83ae32e1f222bf2c8235a8f95128815d/rtems"bb99cd0d/rtems]:

```
1 clock: Simplify driver initialization
2
3 Use a system initialization handler instead of a legacy IO driver.
4
5 Update #3834.
```

Author: Trac Migrate 2019-12-19T08:12:44.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d585fcb9a8a6fab15d6bba0faf19c0923190c00e/rtems-docs"d585fcb/rtems-docs]:

```
1 bsp-howto: Clarify clock driver initialization
2
3 Close #3834.
```

Author: Trac Migrate 2020-01-02T08:49:09.000Z

Original author: sebastian.huber

In [changeset:"a3706d4ce186a72dacd2b09a50123504e0a1e20c/rtems"a3706d4c/rtems]:

```
1 bsps/powerpc: Fix warning
2
3 Update #3834.
```

Author: Amar Takhar 2024-04-25T20:47:30.739Z

changed the description

4.2.1.162 3833 - Simplify RTEMS semaphore configuration

Id	3833
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-12-09T08:53:03.000Z
Updated	2024-04-25T20:47:30.263Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3833
Merges	0

Original author: sebastian.huber

In SMP configurations, the maximum count of MrsP semaphores must be configured via `CONFIGURE_MAXIMUM_MRSP_SEMAPHORES`. The MrsP semaphore implementation predates the addition of self-contained synchronization objects. At this time, the potential memory reduction was justified considering the more complex configuration and additional use of the workspace. With the availability of self-contained synchronization options, e.g. POSIX mutexes, this is no longer justified. Memory constrained applications should use the self-contained synchronization objects. Remove the `CONFIGURE_MAXIMUM_MRSP_SEMAPHORES` configuration option. This has only an impact on applications which use SMP and a large number of scheduler instances.

Author: Trac Migrate 2019-12-11T08:06:41.000Z

Original author: sebastian.huber

In [changeset:"01f8c12ee57230fca1581e1b5be91f3decba0488/rtems" 01f8c12e/rtems]:

```

1 rtems: Optimize semaphore control block
2
3 Move variant, discipline, and global information to flags stored in a
4 node pointer of active semaphores.
5
6 Update #3833.
```

Author: Trac Migrate 2019-12-11T08:06:45.000Z

Original author: sebastian.huber

In [changeset:"4686554260a89ab1127d0583d5636df4174bc813/rtems" 46865542/rtems]:

```

1 rtems: Simplify semaphore configuration
2
3 The MrsP semaphore implementation predates the addition of
4 self-contained synchronization objects. At this time, the potential
5 memory reduction was justified considering the more complex
6 configuration and additional use of the workspace. With the
7 availability of self-contained synchronization options, e.g. POSIX
8 mutexes, this is no longer justified. Memory constrained applications
9 should use the self-contained synchronization objects. Remove the
10 CONFIGURE_MAXIMUM_MRSP_SEMAPHORES configuration option. This has only an
11 impact on applications which use SMP and a large number of scheduler
12 instances.
13
14 Update #3833.

```

Author: Trac Migrate 2019-12-11T08:12:11.000Z

Original author: sebastian.huber

In [changeset:"f7d56f579869ff0bd3acd95c8e245743605f4633/rtems-docs" f7d56f5/rtems-docs]:

```

1 c-user: Obsolete CONFIGURE_MAXIMUM_MRSP_SEMAPHORES
2
3 Update #3833.

```

Author: Trac Migrate 2019-12-19T09:02:28.000Z

Original author: sebastian.huber

In [changeset:"a6887d96ae4bbc89da7e13985954a3a0d74502e1/rtems-docs" a6887d9/rtems-docs]:

```

1 c-user: CONFIGURE_MAXIMUM_MRSP_SEMAPHORES
2
3 Remove use of CONFIGURE_MAXIMUM_MRSP_SEMAPHORES in example. Fix other
4 configuration options.
5
6 Update #3833.

```

Author: Trac Migrate 2019-12-19T09:02:30.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"b12e82d3f9d92275c1a68396287dc34300043c12/rtems-docs" b12e82d/rtems-docs]:

```

1 c-user: Clarify CONFIGURE_MAXIMUM_SEMAPHORES
2
3 Close #3833.

```

Author: Amar Takhar 2024-04-25T20:47:30.303Z

changed the description

4.2.1.163 3800 - termios - Add Capability to Generate SIGINTR and SIGQUIT

Id	3800
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2019-10-02T21:48:42.000Z
Updated	2024-04-25T20:47:28.399Z
Milestone	5.1
Labels	api::posix, posix, priority::normal, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3800
Merges	0

Currently the RTEMS termios implementation does not examine the ISIG setting in the termios attributes and thus does not examine input for the INTR (ctl-C) and QUIT (ctl-) characters. As a consequence, it cannot return -1/EINTR.

The proposed solution implements a point at which a default handler can do nothing like currently or the application can use the following new method which allows them to register the RTEMS provided method `rtems_termios_posix_isig_handler()`.

```

1 rtems_termios_isig_status_code rtems_termios_register_isig_handler(
2 rtems_termios_isig_handler handler
3 );

```

The method `rtems_termios_posix_isig_handler()` is provided and has the POSIX compliant behavior of generating SIGINTR for the VINTR character and SIGQUIT for the VQUIT character.

The user also can register `rtems_termios_default_isig_handler()` to return to the default behavior.

The tests `termios10` (polled IO) and `termios11` (interrupt driven IO) are added to exercise this behavior.

Author: Joel Sherrill 2019-10-07T21:39:22.000Z

- **Description** changed

```

1 - Currently the RTEMS terminos implementation does not examine the ISIG_
  ↳setting in the terminos attributes and thus does not examine input for_
  ↳the INTR (ctl-C) and QUIT (ctl-\) characters.
2 + Currently the RTEMS terminos implementation does not examine the ISIG_
  ↳setting in the terminos attributes and thus does not examine input for_
  ↳the INTR (ctl-C) and QUIT (ctl-\) characters. As a consequence, it_
  ↳cannot return -1/EINTR.
3 ?
  ↳
  ↳
  ↳
  ↳+++++
4
5
6 The proposed solution implements a point at which a default handler can_
  ↳do nothing like currently or the application can use the following_
  ↳new method which allows them to register the RTEMS provided method_
  ↳rtems_terminos_posix_isig_handler().
7
8 {{{
9 - int rtems_terminos_register_isig_handler(
10 + rtems_terminos_isig_status_code rtems_terminos_register_isig_handler(
11 rtems_terminos_isig_handler handler
12 );
13 }}}
14
15 The method rtems_terminos_posix_isig_handler() is provided and has the_
  ↳POSIX compliant behavior of generating SIGINTR for the VINTR_
  ↳character and SIGQUIT for the VQUIT character.
16
17 The user also can register rtems_terminos_default_isig_handler() to_
  ↳return to the default behavior.
18
19 - The test terminos10 is added to exercise this behavior.
20 + The tests terminos10 (polled IO) and terminos11 (interrupt driven IO)_
  ↳are added to exercise this behavior.

```

Author: Trac Migrate 2019-10-09T19:34:25.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"667501a314ba75f80f1c13c6b43dd35d0a00efd1/rtems" 667501a/rtems]:

```

1 terminos: Add Capability to Generate SIGINTR and SIGQUIT
2
3 This patch adds the ability for terminos to send SIGINTR on receipt
4 of VINTR and SIGQUIT for VKILL and return -1/EINTR from read() on
5 a terminos channel. Importantly, this patch does not alter the default

```

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```

6 behavior or force POSIX signal code in just because termios is used.
7 The application must explicitly enable the POSIX behavior of generating
8 a signal upon receipt of these characters. This is discussed in the
9 POSIX standard:
10
11 https://pubs.opengroup.org/onlinepubs/9699919799/basedefs/V1\_chap11.html#md\_0\_65533
12
13 Closes #3800.

```

Author: Trac Migrate 2020-02-01T14:03:08.000Z

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

The implementation breaks the canonical input mode as shown by test case `termios09`.

Author: Trac Migrate 2020-02-01T14:11:27.000Z

The implementation introduced a new enum:

```

1 /**
2  * @brief Type returned by all input processing (isig) methods
3  */
4 typedef enum {
5  /**
6   * This indicates that the input character was processed
7   * and possibly placed into the buffer.
8   */
9   RTEMS_TERMIOS_ISIG_WAS_PROCESSED,
10 /**
11  * This indicates that the input character was not processed and
12  * subsequent processing is required.
13  */
14   RTEMS_TERMIOS_ISIG_WAS_NOT_PROCESSED,
15 /**
16  * This indicates that the character was processed and determined
17  * to be one that requires a signal to be raised (e.g. VINTR or
18  * VKILL). The tty must be in the right termios mode for this to
19  * occur. There is no further processing of this character required and
20  * the pending read() operation should be interrupted.
21  */
22   RTEMS_TERMIOS_ISIG_INTERRUPT_READ
23 } rtems_termios_isig_status_code;

```

What was the rationale for the two status codes `RTEMS_TERMIOS_ISIG_WAS_PROCESSED` and `RTEMS_TERMIOS_ISIG_WAS_NOT_PROCESSED`?

What should a handler do if it returns RTEMS_TERMIOIS_ISIG_WAS_PROCESSED?
The default handler just returns RTEMS_TERMIOIS_ISIG_WAS_NOT_PROCESSED.

Author: Trac Migrate 2020-02-10T08:01:48.000Z

In [changeset:"90f11edd012fc7032b5c985bad554b8559607832/rtems" 90f11edd/rtems]:

```
1 termios: Fix input canonical mode
2
3 Canonical input processing was broken by
4 667501a314ba75f80f1c13c6b43dd35d0a00efd1 as shown by test case
5 termios09.
6
7 Update #3800.
```

Author: Joel Sherrill 2020-04-02T01:03:02.000Z

Sebastian can this be closed now?

Author: Trac Migrate 2020-04-02T05:07:40.000Z

Replying to Joel Sherrill:

Sebastian can this be closed now?

See comment 4.

Author: Chris Johns 2020-04-28T01:53:39.000Z

Ping?

Author: Trac Migrate 2020-05-04T14:55:44.000Z

Joel, I have no idea what you had in mind with the rtems_termios_isig_status_code, see my comment #4. Is this part of the API which applications may implement? The

```
1 rtems_termios_isig_status_code rtems_termios_posix_isig_handler(
2 unsigned char c,
3 struct rtems_termios_tty *tty
4 )
5 {
6 if (c == tty->termios.c_cc[VINTR]) {
7 raise(SIGINT);
8 return RTEMS_TERMIOIS_INTERRUPT_READ;
9 }
10
```

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```

11 if (c == tty->termios.c_cc[VQUIT]) {
12     raise(SIGQUIT);
13     return RTEMS_TERMIOS_ISIG_INTERRUPT_READ;
14 }
15
16 return RTEMS_TERMIOS_ISIG_WAS_NOT_PROCESSED;
17 }

```

doesn't use RTEMS_TERMIOS_ISIG_WAS_PROCESSED for example. The “unsigned char” should be probably cc_t.

Author: Joel Sherrill 2020-05-04T15:30:41.000Z

I added the enum for readability. This is a very odd path and having a real name versus a boolean seemed to me to make the code clearer. We could add a debug assert before the return RTEMS_TERMIOS_IPROC_CONTINUE and then the enum RTEMS_TERMIOS_ISIG_WAS_NOT_PROCESSED would be used.

I was leaning to improving the readability with the enum names. It was also not 100% clear to be that there would not end up ever being a third case.

```

1 static rtems_termios_iproc_status_code
2 iproc (unsigned char c, struct rtems_termios_tty *tty)
3 {
4     /*
5      * If signals are enabled, then allow possibility of VINTR causing
6      * SIGINTR and VQUIT causing SIGQUIT. Invoke user provided isig handler.
7      */
8     if ((tty->termios.c_lflag & ISIG)) {
9         if ((c == tty->termios.c_cc[VINTR]) || (c == tty->termios.c_cc[VQUIT]))
10             ↪{
11                 rtems_termios_isig_status_code rc;
12                 rc = (*termios_isig_handler)(c, tty);
13                 if (rc == RTEMS_TERMIOS_ISIG_INTERRUPT_READ) {
14                     return RTEMS_TERMIOS_IPROC_INTERRUPT;
15                 }
16             }
17         return RTEMS_TERMIOS_IPROC_CONTINUE;
18     }
19 }

```

Author: Chris Johns 2020-05-05T02:28:14.000Z

I am attempting to follow the flow of this ticket to see what the issue is. Sebastian, Joel pushed the patch on 2 Oct 2019, then you updated the ticket with comment:4 around Feb 1 2020 plus a patch to fix the change Joel pushed removing references to one of the enum values. The change only updated the ticket. It was confusing for me to determining the status and action that needs to happen. I have now taken the time to do this.

In regards to enum's one of the fixes for ticket [#3969](#) highlights a subtle issue with bool as a return type then changing code to need more return values. There is no upgrade path I consider **clean** or **safe** (?) if there is a need to add more return states than a bool's true and false. The libdl ticket shows what happens if you move to an enum from bool as compilers, coverity etc cannot see enough to know any code that was if (!returned_bool_now_enum()) ... maybe wrong. In the case of libdl the true or 1 became `.*_no_error` and 0 so a valid or no error result was incorrectly handled in code not updated. I think in important interfaces an enum should be considered desirable even if there is only two states and even if only one state is currently being used, i.e. what we now have.

I agree the documentation should indicate how to use the enum results returned. Can someone please update the enum's comments so a user knows how to handle them if returned?

Thanks

Author: Trac Migrate 2020-05-07T13:07:43.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

In [changeset:"153b26699ee10eb760816ca0d030fe4cd80e1ce7/rtems" 153b2669/rtems]:

```

1  termios: Replace rtems_termios_isig_status_code
2
3  Merge the rtems_termios_isig_status_code and
4  rtems_termios_iproc_status_code enums into a single
5  rtems_termios_iproc_status_code which is now a part of the API.
6
7  Simplify rtems_termios_posix_isig_handler() to avoid unreachable code.
8
9  Close #3800.
```

Author: Amar Takhar 2024-04-25T20:47:28.439Z

changed the description

4.2.1.164 3798 - Add socketmark to libbsd

Id	3798
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2019-09-25T17:05:00.000Z
Updated	2024-04-25T20:47:27.937Z
Milestone	5.1
Labels	libbsd, posix::compliance, priority::normal, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3798
Merges	0

Now that `pselect()` is in `libbsd`, `socketmark()` is the only method called out by any of the four POSIX profiles in the FACE Technical Standard (<http://opengroup.org/face>) which is not provided by `rtems-libbsd`.

Author: Trac Migrate 2019-12-19T09:52:34.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Ticket updates via commits didn't work.

Author: Amar Takhar 2024-04-25T20:47:27.975Z

changed the description

4.2.1.165 3741 - libdl loading ELF objects from libbsd NFS file system ends in a deadlock

Id	3741
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2019-04-27T12:51:51.000Z
Updated	2024-04-25T20:47:22.401Z
Milestone	5.1
Labels	cpukit::dl, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3741
Merges	0

Original author: dufault

For ELF files the run-time loader calls this chain: `* _rtems_rtl_elf_file_load() *`
`_rtems_rtl_alloc_lock() * _rtems_rtl_alloc_heap() * __RTEMS_Lock_allocator()`

`__RTEMS_Lock_allocator()` locks all heap operations. RTL then calls `_read()` and for NFS file systems the NFS threads try to use the heap, locking up the system.

Author: Chris Johns 2019-04-28T01:44:02.000Z

Original author: dufault

- **Milestone** set to %"5.1"
- **Owner** set to @chrisj
- **Status** changed from *new* to *accepted*

Author: Chris Johns 2019-04-30T07:25:22.000Z

Original author: dufault

The default RTL allocator (heap) uses the file system while holding the heap allocator lock and if the file system uses the heap we end up in a deadlock. LibBSD's NFS implementation uses the heap.

The allocator lock/unlock logic was added when the trampoline changes were added. Trampolines provide large memory support and is documented in the User Manual (<https://docs.rtems.org/branches/master/user/exe/loader.html#large-memory>). The trampoline table needs to be close to the code using it or it may be out of range. If something allocates a large piece of memory between allocating the text memory and the trampoline table the relocation to the trampoline will be out of range.

There are two unknowns until the memory is allocated and code is loaded. The first is the location in memory and the second is the instruction the relocation record is pointing too. The location lets us determine the distance from the instruction to the target address and if it is in range and the instruction lets the arch back-end know determine the range the instruction has.

The ELF loader can be split into a finer set of stages to do as much processing before allocating memory however as stated above the two unknowns need to be resolved.

The most robust solution is to add code to build a table of relocation records that could require trampolines. While the allocator lock is being held:

- Lock the allocator
- Allocate the sections
- Locate the symbols
- Determine the number of trampolines using the cached relocation records
- Allocate the trampoline table
- Unlock the allocator

The number of trampolines can be determined using the relocation table data held in memory. The relocation table could be implemented in a similar way the unresolved externals is done with a common pool of blocks that grows and shrinks based on demand. A block allocation should aid the heap with fragmentation.

Author: Chris Johns 2019-05-02T01:45:27.000Z

Original author: dufault

- **Summary** changed from *libdl load of ELF objects on NFS file system lock up to libdl loading ELF objects from libbsd NFS file system ends in a deadlock*

I have:

1. Implemented caching any reloc record that could result in a trampoline using the unresolved table. This table is suitable for the purpose. I have not refactored the unresolved code to relabel the code to be common to unresolved and trampolines at this point in time, I have simply added the trampoline code to the unresolved code with a separate RTL internal header to isolate the interface. 1. Increased the block size for the unresolved table from 64 to 256 and a block is allocated when in the resolved table is opened and one block is always held. It is not clear to me how many tramp reloc records a large object file or an incrementally link object file could have. 1. Added per object file trampoline stats to help track what is happening.

The output for the PowerPC psim BSP for test dl09 with the test hacked to show the trampoline stats is:

```

1 RTL List:
2 /dl09-o1.o
3 trampolines:
4 slots      : 3
5 size       : 48
6 slot size  : 16
7 used       : 1
8 relocs     : 0
9 unresolved: 3
10 yield     : 33%
11 /dl09-o2.o
12 trampolines:
13 slots      : 7
14 size       : 112
15 slot size  : 16
16 used       : 7
17 relocs     : 6
18 unresolved: 1
19 yield     : 100%
20 /dl09-o5.o
21 trampolines:
22 slots      : 6
23 size       : 96
24 slot size  : 16
25 used       : 6
26 relocs     : 6
27 unresolved: 0
28 yield     : 100%
29 /dl09-o3.o
30 trampolines:
31 slots      : 37
32 size       : 592
33 slot size  : 16
34 used       : 13

```

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```

35 relocs      : 12
36 unresolved: 25
37 yield       : 35%
38 /dl09-o4.o
39 trampolines:
40 slots       : 8
41 size        : 128
42 slot size   : 16
43 used        : 8
44 relocs      : 7
45 unresolved: 1
46 yield       : 100%

```

The dl09 test is a bit special because it does a large heap allocation between the loading of each object modules so the yields are close to 100%. The yield indicates how successful the slot usage is. There is an element of estimation in the allocation size of the table.

Note, ``/dl09-o3.o`` exposes a new issue related to the way the unresolved external trampoline slots are managed. This file has a yield of 35% because there are 25 unresolved relocation records. Most of these turn out to be small data (SDATA) relocations and do not need trampolines because they are in the small data section which is limited in size and these are for data which can be jumped too.

If we look at test dl08 we get:

```

1 RTL List:
2 /dl08-o1.o
3 trampolines:
4 slots      : 1
5 size       : 16
6 slot size  : 16
7 used       : 0
8 relocs     : 0
9 unresolved: 1
10 yield      : 0%
11 /libdl08_1.a:dl08-o2.o
12 trampolines:
13 slots      : 1
14 size       : 16
15 slot size  : 16
16 used       : 0
17 relocs     : 0
18 unresolved: 1
19 yield      : 0%
20 /libdl08_2.a:dl08-o3.o
21 trampolines:
22 slots      : 25
23 size       : 400
24 slot size  : 16

```

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```

25 used      : 0
26 relocs    : 0
27 unresolved: 25
28 yield     : 0%
29 /libdl08_1.a:dl08-o4.o
30 trampolines:
31 slots     : 1
32 size      : 16
33 slot size : 16
34 used      : 0
35 relocs    : 0
36 unresolved: 1
37 yield     : 0%
38 /libdl08_2.a:dl08-o6-123456789-123456789.o
39 trampolines: no slots allocated
40 /libdl08_2.a:dl08-o5.o
41 trampolines:
42 slots     : 1
43 size      : 16
44 slot size : 16
45 used      : 0
46 relocs    : 0
47 unresolved: 1
48 yield     : 0%

```

Notice we have a yield of 0% because no trampolines are needed and everything is within range. Again we have the same issue noted above with /libdl08_2.a:dl08-o3.o.

Author: Chris Johns 2019-05-02T01:47:14.000Z

Original author: dufault

- **Summary** changed from *libdl loading ELF objects from libbsd NFS file system ends in a deadlock* to *libdl loading ELF objects from libbsd NFS file system ends in a deadlock*

Author: Chris Johns 2019-05-03T00:12:02.000Z

Original author: dufault

I have worked on the way the relocs are parsed and now have dl09 on the psim and xilinx_zynq_a9_qemu BSPs reporting trampoline usage of:

```

1 RTL List:
2 /dl09-o1.o
3 trampolines:
4 slots      : 1
5 size       : 16

```

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```

6 slot size : 16
7 used      : 1
8 relocs    : 1
9 unresolved: 0
10 yield     : 100%
11 /dl09-o2.o
12 trampolines:
13 slots     : 7
14 size      : 112
15 slot size : 16
16 used      : 7
17 relocs    : 7
18 unresolved: 0
19 yield     : 100%
20 /dl09-o5.o
21 trampolines:
22 slots     : 6
23 size      : 96
24 slot size : 16
25 used      : 6
26 relocs    : 6
27 unresolved: 0
28 yield     : 100%
29 /dl09-o3.o
30 trampolines:
31 slots     : 13
32 size      : 208
33 slot size : 16
34 used      : 13
35 relocs    : 13
36 unresolved: 0
37 yield     : 100%
38 /dl09-o4.o
39 trampolines:
40 slots     : 8
41 size      : 128
42 slot size : 16
43 used      : 8
44 relocs    : 8
45 unresolved: 0
46 yield     : 100%

```

The dl08 results still have a 0% yield but the number of slots is lower:

```

1 RTL List:
2 /dl08-o1.o
3 trampolines:
4 slots      : 1
5 size       : 16

```

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```
6 slot size : 16
7 used      : 0
8 relocs    : 1
9 unresolved: 0
10 yield     : 0%
11 /libdl08_1.a:dl08-o2.o
12 trampolines:
13 slots     : 1
14 size      : 16
15 slot size : 16
16 used      : 0
17 relocs    : 1
18 unresolved: 0
19 yield     : 0%
20 /libdl08_2.a:dl08-o3.o
21 trampolines:
22 slots     : 1
23 size      : 16
24 slot size : 16
25 used      : 0
26 relocs    : 1
27 unresolved: 0
28 yield     : 0%
29 /libdl08_1.a:dl08-o4.o
30 trampolines:
31 slots     : 1
32 size      : 16
33 slot size : 16
34 used      : 0
35 relocs    : 1
36 unresolved: 0
37 yield     : 0%
38 /libdl08_2.a:dl08-o6-123456789-123456789.o
39 trampolines:
40 slots     : 0
41 size      : 0
42 slot size : 16
43 used      : 0
44 relocs    : 0
45 unresolved: 0
46 yield     : 0%
47 /libdl08_2.a:dl08-o5.o
48 trampolines:
49 slots     : 1
50 size      : 16
51 slot size : 16
52 used      : 0
53 relocs    : 1
54 unresolved: 0
```

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55 **yield** : 0%**Author:** Chris Johns 2019-05-03T00:46:02.000Z

Original author: dufault

I have posted a reasonable solution to the bug but I think there is a better solution. The current trampoline processing is reloc record based and it should target symbol based. A trampoline to a target symbol will be the same set of instructions and could be shared by relocations. This would drop the trampoline slot count.

A change would move away from a trampoline cache of each record to a cache of target symbols referenced by reloc records. The tramp check would see which symbols are in range and which are out of range to determine the number of slots to allocate. A relocation record that is not the full address range would still need a slot if the symbol is unresolved. The symbol cache entry would reference count reloc records referencing it and be deleted once there are no more references. The symbol cache entry would hold the trampoline slot number once allocated for use by other relocation records.

Note, the trampoline code is transparent to the execution of the object code and only has the target symbol address in it therefore it can be shared by more than one relocation record.

The unresolved table code may need to be split as the symbol record may grow the size of the record union and effect the memory footprint for unresolved symbols.

Author: Trac Migrate 2019-05-04T02:22:01.000Z

Original author: dufault

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"b36c52097f52012f9a52dff6fc8393d63805158b/rtems" b36c5209/rtems]:

```

1 libdl: Do not access the ELF file while the allocator is locked.
2
3 - Load symbols before allocation.
4 - Parse reloc records and place any reloc recs in a cache to use
5 while the allocator is locked.
6 - Relocate symbols after section allocation.
7 - Split section loading into allocation/locating and loading.
8 - Update all arch back-ends with a new reloc interface to control
9 tramp handling.
10 - Add `-a` and `-t` to the object list shell command.
11
12 Closes #3741

```

Author: Amar Takhar2024-04-25T20:47:22.447Z

changed the description

4.2.1.166 3734 - Add RTEMS_CONST attribute

Id	3734
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-04-05T06:41:32.000Z
Updated	2024-04-25T20:47:21.107Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3734
Merges	0

Original author: sebastian.huber

Add RTEMS_CONST attribute to make the compiler specific `__attribute__ ((__const__))` available.

Author: Trac Migrate2019-04-09T06:11:45.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"3c50c3286535730084633b4d960b3aee4d86e455/rtems"3c50c328/rtems]:

1 score: Add RTEMS_CONST

2

3 Close #3734.

Author: Trac Migrate2019-04-09T06:18:43.000Z

Original author: sebastian.huber

In [changeset:"71c5b005c7d173f5e1a7d82c91ce4c281e3f2c84/rtems"71c5b005/rtems]:

1 spmisc01: Use RTEMS_CONST

2

3 Update #3734.

Author: Amar Takhar 2024-04-25T20:47:21.145Z

changed the description

4.2.1.167 3732 - Add `rtems_scheduler_get_processor_maximum()`

Id	3732
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-04-04T07:36:27.000Z
Updated	2024-04-25T20:47:20.674Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3732
Merges	0

Original author: sebastian.huber

Add `rtems_scheduler_get_processor_maximum()` as a replacement for `rtems_get_processor_count()`. The `rtems_get_processor_count()` is a bit orphaned. Adopt it by the Scheduler Manager. The count is also misleading, since the processor set may have gaps and the actual count of online processors may be less than the value returned by `rtems_get_processor_count()`.

Author: Trac Migrate 2019-04-05T06:17:36.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

1

- Add `rtems_scheduler_get_maximum_processor()` as a replacement for `rtems_get_processor_count()`. The `rtems_get_processor_count()` is a bit orphaned. Adopt it by the Scheduler Manager. The count is also misleading, since the processor set may have gaps and the actual count of online processors may be less than the value returned by `rtems_get_processor_count()`.

2

?

3

4

+ Add `rtems_scheduler_get_processor_maximum()` as a replacement for `rtems_get_processor_count()`. The `rtems_get_processor_count()` is a bit orphaned. Adopt it by the Scheduler Manager. The count is also misleading, since the processor set may have gaps and the actual count of online processors may be less than the value returned by

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```

5  ↪ rtems_get_processor_count().
   ?                               ++++++++

```

- **Summary** changed from *Add rtems_scheduler_get_maximum_processor()* to *Add rtems_scheduler_get_processor_maximum()*

Author: Trac Migrate 2019-04-09T06:11:52.000Z

Original author: sebastian.huber

In [changeset:"f9219db2a95c8285d1be22092572b4236bfe6488/rtems" f9219db/rtems]:

```

1  rtems: Add rtems_scheduler_get_processor_maximum()
2
3  Add rtems_scheduler_get_processor_maximum() as a replacement for
4  rtems_get_processor_count(). The rtems_get_processor_count() is a bit
5  orphaned. Adopt it by the Scheduler Manager. The count is also
6  misleading, since the processor set may have gaps and the actual count
7  of online processors may be less than the value returned by
8  rtems_get_processor_count().
9
10 Update #3732.

```

Author: Trac Migrate 2019-04-09T06:13:08.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"53300c8e16c5f281e9deb1e17a9ae0a34770ef86/rtems-docs" 53300c8/rtems-docs]:

```

1  c-user: rtems_scheduler_get_processor_maximum()
2
3  Close #3732.

```

Author: Trac Migrate 2019-04-11T07:19:29.000Z

Original author: sebastian.huber

In [changeset:"cfd6dc98cad1dd677ac60ad80e7ef3aa39b926b/rtems" cfd6dc9/rtems]:

```

1  score: Rename _SMP_Processor_count
2
3  Rename _SMP_Processor_count in _SMP_Processor_maximum to be in line with

```

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```
4 the API level rtems_scheduler_get_processor_maximum().
5
6 Update #3732.
```

Author: Trac Migrate 2019-04-11T07:19:32.000Z

Original author: sebastian.huber

In [changeset:"ad87de4a67d8ce7e75d0b844efc03b98c3ecda1a/rtems" ad87de4/rtems]:

```
1 score: Rename _SMP_Get_processor_count()
2
3 Rename _SMP_Get_processor_count() in _SMP_Get_processor_maximum() to be
4 in line with the API level rtems_scheduler_get_processor_maximum().
5
6 Update #3732.
```

Author: Amar Takhar 2024-04-25T20:47:20.713Z

changed the description

4.2.1.168 3731 - Add rtems_scheduler_get_processor()

Id	3731
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-04-04T07:33:54.000Z
Updated	2024-04-25T20:47:20.242Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3731
Merges	0

Original author: sebastian.huber

Add rtems_scheduler_get_processor() as a replacement for rtems_get_current_processor(). The rtems_get_current_processor() is a bit orphaned. Adopt it by the Scheduler Manager. This is in line with the glibc sched_getcpu() function.

Author: Trac Migrate 2019-04-09T06:11:49.000Z

Original author: sebastian.huber

In [changeset:"03c9f2406127b71ad5abdfd02af1609f8a67f012/rtems"03c9f24/rtems]:

```
1 rtems: Add rtems_scheduler_get_processor()
2
3 Add rtems_scheduler_get_processor() as a replacement for
4 rtems_get_current_processor(). The rtems_get_current_processor() is a
5 bit orphaned. Adopt it by the Scheduler Manager. This is in line with
6 the glibc sched_getcpu() function.
7
8 Deprecate rtems_get_current_processor().
9
10 Update #3731.
```

Author: Trac Migrate 2019-04-09T06:13:06.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"3495a91aa9d98805927a59c1148901dcf8eb69d3/rtems-docs"3495a91/rtems-docs]:

```
1 c-user: Document rtems_scheduler_get_processor()
2
3 Close #3731.
```

Author: Amar Takhar 2024-04-25T20:47:20.280Z

changed the description

4.2.1.169 3708 - Remove Doxygen comments from confdefs.h

Id	3708
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-02-26T14:22:06.000Z
Updated	2024-04-25T20:47:11.583Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, tickettype::task, version::5, version::6
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3708
Merges	0

Original author: sebastian.huber

The confdefs.h file contains Doxygen comments. They are not helpful and lead to a confusing Doxygen output. The documentation place for the RTEMS configuration is the RTEMS Classic API Guide:

https://docs.rtems.org/branches/master/c-user/configuring_a_system.html

Author: Chris Johns 2019-02-27T23:48:33.000Z

Original author: sebastian.huber

Can a link be added so doxygen generate docs point to the documentation?

Author: Joel Sherrill 2019-02-27T23:52:08.000Z

Original author: sebastian.huber

I am against a patch that removes them without verifying that all info in the Doxygen comments is already in the Classic API Guide. There has to be at least some information in confdefs.h comments that isn't in the manual.

Author: Trac Migrate 2019-02-28T14:18:19.000Z

Original author: sebastian.huber

I think we all agreed that the user documentation is in the manuals and Doxygen is for internal use, e.g. for RTEMS contributors.

If something is in Doxygen comments in confdefs.h which is not in the manual, then of course we should update the manual.

Author: Trac Migrate 2020-06-01T11:27:20.000Z

Original author: sebastian.huber

- **Milestone** changed from %"6.1" to %"5.1"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*
- **Version** changed from ~"6" to ~"5"

Removing the Doxygen markup from <rtems/confdefs.h> was a side-effect of #3875. With the new specification items for the application configuration options it would be possible to generate Doxygen markup for them: #3994.

Author: Amar Takhar 2024-04-25T20:47:08.037Z

mentioned in issue #3701

Author: Amar Takhar 2024-04-25T20:47:11.624Z

changed the description

4.2.1.170 3699 - Wrong system register specified for ARM virtual timer value retrieval

Id	3699
State	closed
Type	ISSUE
Author	Kinsey Moore
Assignee(s)	Trac Migrate
Created	2019-02-21T19:23:32.000Z
Updated	2024-04-25T20:47:06.732Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3699
Merges	0

In `arm_cp15_get_counter_pl1_virtual_timer_value()` in `cpukit/score/cpu/arm/include/libcpu/arm-cp15.h`, the system register specified by “p15, 0, %[val], c14, c2, 0” is actually the system register for the physical timer value. This should be “p15, 0, %[val], c14, c3, 0” for the virtual timer value as used in the setter.

Author: Trac Migrate 2019-02-22T07:27:47.000Z

- **Milestone** set to %”5.1”
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*
- **Version** set to ~”5”

Author: Trac Migrate 2019-02-22T07:29:53.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *accepted* to *closed*

In [changeset:”7abc497b6c763ccdc090014f310951b17c742ae9/rtems”7abc497/rtems]:

```
1 bsp/arm: Fix system register for virtual timer
2
3 The system register in use for retrieval of the virtual timer value was
4 mistakenly copied from the physical timer value retrieval function.
5 Virtual timer value retrieval should use the same system register as the
6 virtual timer value setter.
7
8 Close #3699.
```

Author: Amar Takhar 2024-04-25T20:47:06.773Z

changed the description

4.2.1.171 3694 - shm_open has logically unreachable code (Coverity ID: 1399706, 1399714)

Id	3694
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Gedare Bloom
Created	2019-02-19T18:10:33.000Z
Updated	2024-04-25T20:47:05.544Z
Milestone	5.1
Labels	filesystem, priority::normal, resolution::fixed, scan::coverity, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3694
Merges	0

Coverity ID: 1399706 and 1399714 File: shmopen.c Method: shm_open for first

```

1 dead_error_condition: The condition oflag & 0 cannot be true.
2 289 if ( oflag & O_RDONLY ) {
3
4 CID 1399706 (#1 of 1): Logically dead code (DEADCODE)
5 dead_error_line: Execution cannot reach this statement: flags |= 2U;.
6 290 flags |= LIBIO_FLAGS_READ;
7 291 } else {

```

URL: <https://scan5.coverity.com/reports.htm#v29811/p10069/fileInstanceId=153084281&defectInstanceId=42558012&mergedDefectId=1399706&fileStart=1&fileEnd=250>

Same issue at other place in same file:

```

1 197 int flags;
2 dead_error_condition: The condition oflag & 0 cannot be true.
3 198 if ( oflag & O_RDONLY ) {
4
5 CID 1399714 (#1 of 1): Logically dead code (DEADCODE)
6 dead_error_line: Execution cannot reach this statement: flags = 4;.
7 199 flags = RTEMS_FS_PERMS_READ;
8 200 } else {

```

Author: Joel Sherrill 2019-02-19T18:12:13.000Z

- **Description** changed

```

1 - Coverity ID: 1399706
2 + Coverity ID: 1399706 and 1399714
3 ?
4
5 File: shmopen.c

```

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```

6 - Method: shm_open
7 + Method: shm_open for first
8 ?             ++++++++
9
10
11 {{{
12 dead_error_condition: The condition oflag & 0 cannot be true.
13 289 if ( oflag & O_RDONLY ) {
14
15 CID 1399706 (#1 of 1): Logically dead code (DEADCODE)
16 dead_error_line: Execution cannot reach this statement: flags |= 2U;.
17 290   flags |= LIBIO_FLAGS_READ;
18 291 } else {
19 }}}
20
21 URL: https://scan5.coverity.com/reports.htm#v29811/p10069/
    ↪ fileInstanceId=153084281&defectInstanceId=42558012&
    ↪ mergedDefectId=1399706&fileStart=1&fileEnd=250
22 +
23 + Same issue at other place in same file:
24 +
25 + {{{
26 + 197 int flags;
27 +     dead_error_condition: The condition oflag & 0 cannot be true.
28 + 198 if ( oflag & O_RDONLY ) {
29 +
30 + CID 1399714 (#1 of 1): Logically dead code (DEADCODE)
31 + dead_error_line: Execution cannot reach this statement: flags = 4;.
32 + 199   flags = RTEMS_FS_PERMS_READ;
33 + 200 } else {
34 + }}}

```

- **Summary** changed from *shm_open has logically unreachable code (Coverity ID: 1399706)* to *shm_open has logically unreachable code (Coverity ID: 1399706, 1399714)*

Author: Gedare Bloom 2019-03-14T16:08:10.000Z

the fix is something along the lines of `(oflag & O_ACCMODE) == O_RDONLY` to check for read-only

Author: Trac Migrate 2019-03-14T19:26:24.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"31e8f1b7829947e9f335a19ae42177a7e6c10e88/rtems"
31e8f1b/rtems]:

```
1 shmopen.c: Fix logically unreachable code (Coverity ID: 1399706, ↵  
  ↪1399714)  
2  
3 Closes #3694.
```

Author: Amar Takhar 2024-04-25T20:47:05.665Z

changed the description

4.2.1.172 3693 - libdl incorrectly handles MIPS16hi/lo relocs

Id	3693
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-02-14T23:13:30.000Z
Updated	2024-04-25T20:47:05.091Z
Milestone	5.1
Labels	cpukit::dl, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3693
Merges	0

This issue was reported back is 2016 and it slipped through. I am creating a ticket here to track the issue.

<https://lists.rtems.org/pipermail/users/2016-January/029740.html>

- [libdl-rtl-mdreloc-mips-hi16-lo16.diff](#)

Author: Chris Johns 2019-02-14T23:15:51.000Z

The patch creates global data between the architecture relocater and the format. I wonder how the ELF format handles the same reloc records?

The latest code has support for architecture specific handling of reloc records. I wonder if this new infrastructure can be used to achieve the same thing?

Author: Chris Johns 2019-02-15T02:29:55.000Z

- **Attachment** [libdl-rtl-mdreloc-mips-hi16-lo16.diff](#) added
- Fix based on the email posted changes.

Author: Trac Migrate 2020-04-28T04:00:12.000Z

- **Resolution** set to ~"fixed"

- **Status** changed from *assigned* to *closed*

In [changeset:"0b41675971c9952d44f8272cd38e830f25c1af41/rtems" 0b416759/rtems]:

```
1 libdl/mips: Fix MIPS16hi/lo relocation support.
2
3 This patch is an updated version from:
4
5 https://lists.rtems.org/pipermail/users/2016-January/029740.html
6
7 Closes #3693
```

Author: Amar Takhar 2024-04-25T20:47:05.135Z

changed the description

4.2.1.173 3666 - Add support for C++17 std::aligned_alloc

Id	3666
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-12-19T07:56:55.000Z
Updated	2024-04-25T20:47:00.892Z
Milestone	5.1
Labels	library, priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3666
Merges	0

Original author: sebastian.huber

In C++17 there is a std::aligned_alloc():

https://en.cppreference.com/w/cpp/memory/c/aligned_alloc

Unfortunately, it doesn't work with RTEMS currently:

https://gcc.gnu.org/bugzilla/show_bug.cgi?id=85904

Provide aligned_alloc() and memalign() (as a strong alias to aligned_allo0()) by RTEMS.

Author: Trac Migrate 2018-12-21T06:56:55.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"2158621366c19dc32418ace48f49f4474a40c669/rtems" 2158621/rtems]:

```
1 Add aligned_alloc() and memalign()
2
3 Ensure that the C++17 aligned new operator works.
4
5 Close #3666.
```

Author: Trac Migrate 2019-01-10T10:35:55.000Z

Original author: sebastian.huber

In [changeset:"8eaf136de989bfaa2780895ce91ae42da631a734/rtems" 8eaf136d/rtems]:

```
1 memalign: Add missing attributes to fix warning
2
3 Update #3666.
```

Author: Amar Takhar 2024-04-25T20:47:00.936Z

changed the description

4.2.1.174 3664 - RSB config parsing slow on python3

Id	3664
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2018-12-18T00:52:25.000Z
Updated	2024-04-25T20:47:00.477Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3664
Merges	0

The execute support on python3 is slow and this slows the config file parsing.

Author: Trac Migrate 2018-12-25T01:15:50.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"c2d23387595c8d4e5568a498b948f9dde2790c49/rtems-source-builder" c2d2338/rtems-source-builder]:

```

1 sb/execute: Port the rtemstoolkit performance fixes for python3
2
3 Close #3664.

```

Author: Amar Takhar 2024-04-25T20:47:00.514Z

changed the description

4.2.1.175 3651 - Sphinx 1.8 PDF (latex) on FreeBSD does not build

Id	3651
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2018-12-09T23:09:32.000Z
Updated	2024-04-25T20:46:54.604Z
Milestone	5.1
Labels	doc::sphinx, priority::high, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3651
Merges	0

The build fails with pdfindex complaining on an `_Undefined Control Sequence_`:

```

1 ! Undefined control sequence.
2 <argument> \spxpagem
3
4 1.88 ...ecture}, \hyperindexformat{\spxpagem}{183}

```

The Tex is:

```

1 \item[{\Architecture\index{Architecture@\spxentry{Architecture}|spxpagem}\
↪phantomsection\label{\detokenize{glossary/index:term-architecture}}}] \
↪leavevmode

```

And the IDX entry from makeindex is:

```

1 \item \spxentry {Architecture}, \hyperindexformat{\spxpagem}{183}

```

Author: Chris Johns 2019-01-08T23:24:50.000Z

Sphinx provides a Makefile in the build directory and this uses latexmk to create the PDF. I have seen posts from sphinx developers stating the Makefile should be used when building a PDF.

Sphinx 1.8 and later references `\spxpagem` which is provided in a support file called `sphinx.xdy`. The Makefile references this file in the xindy options:

```
1 export XINDYOPTS = -L english -C utf8 -M sphinx.xdy
```

The issue on FreeBSD with texlive-full-20150521 is the lack of the xindy command:

```
1 $ type xindy
2 xindy: not found
```

And latexmk expects it to exist.

Author: Chris Johns 2019-12-12T16:46:31.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

Author: Amar Takhar 2024-04-25T20:46:54.648Z

changed the description

4.2.1.176 3637 - Fix rtems_task_restart() argument type

Id	3637
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-12-06T09:47:22.000Z
Updated	2024-04-25T20:46:49.194Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3637
Merges	0

Original author: sebastian.huber

The argument type must be `rtems_task_argument` in `rtems_task_restart()` similar to `rtems_task_start()`. This is a severe issue on 64-bit targets since it prevents to pass pointer values to the task.

Author: Trac Migrate 2018-12-06T10:03:19.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:"4e46ba8460d0d3514179dee2e4bbf17cde94e904/rtems" 4e46ba8/rtems]:

```
1 rtems: Fix rtems_task_restart() argument type
2
3 Close #3637.
```

Author: Amar Takhar 2024-04-25T20:46:49.232Z

changed the description

4.2.1.177 3636 - Add rtems_scheduler_get_maximum_priority()

Id	3636
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-12-06T08:55:46.000Z
Updated	2024-04-25T20:46:48.761Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3636
Merges	0

Original author: sebastian.huber

The maximum task priority depends on the scheduler instance. It is a configuration parameter. Add a function to get it at runtime.

```
1 /**
2  * @brief Gets the maximum task priority of the specified scheduler instance.
3  *
4  * @param[in] scheduler_id Identifier of the scheduler instance.
5  * @param[out] priority Pointer to a task priority value.
6  *
7  * @retval RTEMS_SUCCESSFUL Successful operation.
8  * @retval RTEMS_INVALID_ADDRESS The @a priority parameter is @c NULL.
9  * @retval RTEMS_INVALID_ID Invalid scheduler instance identifier.
10 */
11 rtems_status_code rtems_scheduler_get_maximum_priority(
12 rtems_id          scheduler_id,
13 rtems_task_priority *priority
14 );
```

Author: Trac Migrate 2018-12-07T13:33:51.000Z

Original author: sebastian.huber

In [changeset:"7ee64376ef8a1189cb03174fa902a335d1f96919/rtems" 7ee6437/rtems]:

```
1 rtems: Add rtems_scheduler_get_maximum_priority()
2
3 Update #3636.
```

Author: Trac Migrate 2018-12-10T08:20:21.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"16f33fd0e269ef55c0d2a4900dd863f7ae613203/rtems-docs" 16f33fd/rtems-docs]:

```
1 c-user: rtems_scheduler_get_maximum_priority()
2
3 Close #3636.
```

Author: Amar Takhar 2024-04-25T20:46:48.801Z

changed the description

4.2.1.178 3621 - Statically initialize object information structures

Id	3621
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-26T12:50:51.000Z
Updated	2024-04-25T20:46:46.870Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3621
Merges	0

Original author: sebastian.huber

Statically initialize the object information structures to make the configuration easier to review and simplify the debugging.

The workspace size estimate generated by <rtems/confdefs.h> looks currently like this:

```
1 const rtems_configuration_table Configuration = { ( ( ( (ssize_t) (((((1 +
2 0) != 0 ? 1 : 0) * ((Objects_Maximum) ((1 + 0) & ~0x80000000U))) *
(continues on next page)
```

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```

3 (sizeof(Configuration_Thread_control))) != 0 ? 1 : 0) * ((((((1 + 0) != 0 ? 1 :
4 0) * ((Objects_Maximum) ((1 + 0) & ~0x80000000U))) *
5 (sizeof(Configuration_Thread_control)) + (2 * sizeof(uintptr_t) +
6 (sizeof(Heap_Protection_block_begin) + sizeof(Heap_Protection_block_end)))) +
7 (((sizeof(Heap_Block)) + (8) - 1) - ((sizeof(Heap_Block)) + (8) - 1) % (8))) -
8 1) - ((((((1 + 0) != 0 ? 1 : 0) * ((Objects_Maximum) ((1 + 0) & ~0x80000000U)))
9 * (sizeof(Configuration_Thread_control)) + (2 * sizeof(uintptr_t) +
10 (sizeof(Heap_Protection_block_begin) + sizeof(Heap_Protection_block_end)))) +
11 (((sizeof(Heap_Block)) + (8) - 1) - ((sizeof(Heap_Block)) + (8) - 1) % (8)))

```

[more than 500 similar lines]

```

1 1) - (((sizeof(Configuration_Initial_Extensions) /
2 sizeof((Configuration_Initial_Extensions)[0])) *
3 sizeof(User_extensions_Switch_control) + (2 * sizeof(uintptr_t) +
4 (sizeof(Heap_Protection_block_begin) + sizeof(Heap_Protection_block_end)))) +
5 (((sizeof(Heap_Block)) + (8) - 1) - ((sizeof(Heap_Block)) + (8) - 1) % (8))) -
6 1) % (((sizeof(Heap_Block)) + (8) - 1) - ((sizeof(Heap_Block)) + (8) - 1) %
7 (8)))) + 0 + 0 + (0 * 1024) + (((2 * sizeof(uintptr_t) +
8 (sizeof(Heap_Protection_block_begin) + sizeof(Heap_Protection_block_end)))) +
9 (8) - 1) - (((2 * sizeof(uintptr_t) + (sizeof(Heap_Protection_block_begin) +
10 sizeof(Heap_Protection_block_end)))) + (8) - 1) % (8)) ),

```

The object controls reside on the heap even for fixed object count configuration. Using a statically allocated array makes it easier to find the objects during debugging.

Author: Chris Johns 2018-11-27T00:53:30.000Z

Original author: sebastian.huber

Replying to [Sebastian Huber](#):

The object controls reside on the heap even for fixed object count configuration. Using a statically allocated array makes it easier to find the objects during debugging.

It is not clear me to what the requirements are these change are being based on? Is there some overriding push for everything to be static tables every where.

Static tables for initialisation do solve some issues such as audit-able configuration control but are there other use cases where this may not be a good fit. I cannot tell. For example statically inflexible kernel initialisation and libdl do not sit well together. The demands on the kernel configuration from the loadable code can vary and does and if you consider libdl as a means to produce “golden images” having the ability to vary the configuration is important. I have built systems where the bootloader loads the kernel configuration data and then loads the application. Can this still be done?

Author: Trac Migrate 2018-11-27T06:00:08.000Z

Original author: sebastian.huber

You can still do whatever you want after the system is initialized. I just want to get rid of the workspace allocations used during the system startup and instead use storage allocated by the linker.

Author: Chris Johns 2018-11-27T06:05:25.000Z

Original author: sebastian.huber

Great and thank you.

Author: Trac Migrate 2018-12-07T13:33:28.000Z

Original author: sebastian.huber

In [changeset:"f70079ca20b11da6e481ddfeab4516545ec71cbd/rtems" f70079c/rtems]:

```
1 score: Remove Objects_Information::the_api
2
3 Remove Objects_Information::the_class. This information is already
4 contained in Objects_Information::maximum_id.
5
6 Update #3621.
```

Author: Trac Migrate 2018-12-07T13:33:31.000Z

Original author: sebastian.huber

In [changeset:"1c2d17839760b0d8ad5a02e4c84bd8f99fac4e98/rtems" 1c2d178/rtems]:

```
1 score: Remove Objects_Information::maximum
2
3 This information is already present in Objects_Information::maximum_id.
4 Add and use _Objects_Get_maximum_index().
5
6 Update #3621.
```

Author: Trac Migrate 2018-12-07T13:33:35.000Z

Original author: sebastian.huber

In [changeset:"3899bc1a4b3294306ae2fd3f8ff0ee10365d9f4b/rtems" 3899bc1a/rtems]:

```
1 score: Optimize object lookup
2
```

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```

3 Use the maximum ID for the ID to object translation. Using the maximum
4 ID gets rid of an additional load from the object information in
5 _Objects_Get(). In addition, object lookups fail for every ID in case
6 the object information is cleared to zero. This makes it a bit more
7 robust during system startup (see new tests in spconfig02).
8
9 The local table no longer needs a NULL pointer entry at array index
10 zero. Adjust all the object iteration loops accordingly.
11
12 Remove Objects_Information::minimum_id since it contains only redundant
13 information. Add _Objects_Get_minimum_id() to get the minimum ID.
14
15 Update #3621.

```

Author: Trac Migrate 2018-12-07T13:33:38.000Z

Original author: sebastian.huber

In [changeset:"359a3a36ca9bf82054fe6a83bd97868c310e5aae/rtems"
359a3a3/rtems]:

```

1 score: Rename Objects_Information::allocation_size
2
3 Rename Objects_Information::allocation_size in
4 Objects_Information::objects_per_block. Adjust integer types in
5 _Objects_Shrink_information() and _Objects_Free().
6
7 Update #3621.

```

Author: Trac Migrate 2018-12-07T13:33:41.000Z

Original author: sebastian.huber

In [changeset:"0da9d805cd697dd2eed050374f704b29e8d3c18a/rtems"
0da9d80/rtems]:

```

1 score: Rename Objects_Information::size
2
3 Rename Objects_Information::size to Objects_Information::object_size.
4 Change its type from size_t to uint16_t and move it to reduce the size
5 of Objects_Information.
6
7 Update #3621.

```

Author: Trac Migrate 2018-12-07T13:33:44.000Z

Original author: sebastian.huber

In [changeset:"9c9c6a93b1a17ad12f61b41e1d5f4616871cdba7/rtems"9c9c6a9/rtems]:

```
1 score: Remove Objects_Information::is_string
2
3 Use Objects_Information::name_length to store this information.
4
5 Update #3621.
```

Author: Trac Migrate 2018-12-07T13:33:48.000Z

Original author: sebastian.huber

In [changeset:"d6e347387198c7e8fac4b4f6f52c3d9624ebafcd/rtems"d6e3473/rtems]:

```
1 score: Remove dead code
2
3 Update #3621.
```

Author: Trac Migrate 2018-12-14T06:04:01.000Z

Original author: sebastian.huber

In [changeset:"8b0e752fee90af946e0e117ca7d46a7df7814d14/rtems"8b0e752/rtems]:

```
1 score: Remove Objects_Information::auto_extend
2
3 Use Objects_Information::objects_per_block to provide this information.
4 Add and use _Objects_Is_auto_extend().
5
6 Update #3621.
```

Author: Trac Migrate 2018-12-14T06:04:05.000Z

Original author: sebastian.huber

In [changeset:"0f5b2c0906e77863d86dda2c91e32f9ab1983fdf/rtems"0f5b2c09/rtems]:

```
1 rtems: Use object information to get config max
2
3 Use functions instead of macros. Add missing
4 rtems_configuration_get_maximum_*() functions.
5
6 Update #3621.
```

Author: Trac Migrate 2018-12-14T06:04:08.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"21275b58a5a69c3c838082ffc8a7a3641f32ea9a/rtems" 21275b58/rtems]:

```
1 score: Static Objects_Information initialization
2
3 Statically allocate the objects information together with the initial
4 set of objects either via <rtems/confdefs.h>. Provide default object
5 informations with zero objects via librtemscpu.a. This greatly
6 simplifies the workspace size estimate. RTEMS applications which do not
7 use the unlimited objects option are easier to debug since all objects
8 reside now in statically allocated objects of the right types.
9
10 Close #3621.
```

Author: Trac Migrate 2020-01-02T08:49:12.000Z

Original author: sebastian.huber

In [changeset:"a320aeddd969db9864353eb54556d66c2bda6817/rtems" a320aedd/rtems]:

```
1 score: Fix objects node initialization
2
3 The objects node is statically initialized to one. Clear the node field
4 before it is set.
5
6 Update #3621.
```

Author: Amar Takhar 2024-04-25T20:46:46.984Z

changed the description

4.2.1.179 3603 - Remove support for 16-bit object identifiers

Id	3603
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-12T07:49:11.000Z
Updated	2024-04-25T20:46:42.713Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, ticket-type::task, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3603
Merges	0

Original author: sebastian.huber

The RTEMS_USE_16_BIT_OBJECT define is not set by an RTEMS port. Remove support for 16-bit object identifiers. If someone really wants to use RTEMS on a 16-bit target, then it is better to use self-contained objects instead of playing around with object identifier optimizations.

Author: Trac Migrate 2018-11-21T07:06:49.000Z

Original author: sebastian.huber

In [changeset:"59e7209fb3181ab48c4f63da8a8deda8872157f7/rtems" 59e7209f/rtems]:

```

1 score: Remove support for RTEMS_USE_16_BIT_OBJECT
2
3 The RTEMS_USE_16_BIT_OBJECT define is not set by an RTEMS port. Remove
4 support for 16-bit object identifiers. If someone really wants to use
5 RTEMS on a 16-bit target, then it is better to use self-contained
6 objects instead of playing around with object identifier optimizations.
7
8 Update #3603.
```

Author: Trac Migrate 2018-11-21T07:09:12.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"92745a4baa1a6eee88d95cfd98e4ded0f19614b6/rtems-docs" 92745a4/rtems-docs]:

```

1 c-user: Remove 16-bit object identifiers
2
3 Close #3603.
```

Author: Amar Takhar 2024-04-25T20:46:42.752Z

changed the description

4.2.1.180 3598 - Move internal types of API objects to separate header file

Id	3598
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-08T07:49:11.000Z
Updated	2024-04-25T20:46:42.244Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3598
Merges	0

Original author: sebastian.huber

The `<rtems.h>` header file still exposes a lot of implementation details via the definition of internal data structures, e.g. the `*_Control` structures of the API objects. They are only necessary for the application configuration. Move them to separate header files. Currently we have:

- `<rtems/rtems/XYZ.h>`
- `<rtems/rtems/XYZimpl.h>`

Use

- `<rtems/rtems/XYZdata.h>`

for this new header file.

Potential new header files are:

- `rtems/extensiondata.h`
- `rtems/rtems/asrdata.h`
- `rtems/rtems/barrierdata.h`
- `rtems/rtems/dpmemdata.h`
- `rtems/rtems/eventdata.h`
- `rtems/rtems/messagedata.h`
- `rtems/rtems/partdata.h`
- `rtems/rtems/ratemondata.h`
- `rtems/rtems/regiondata.h`
- `rtems/rtems/semdata.h`
- `rtems/rtems/tasksdata.h`

- `rtems/rtems/timerdata.h`

Author: Trac Migrate 2018-11-08T07:59:33.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 The <rtems.h> header file still exposes a lot of implementation details.
  ↳ via the definition of internal data structures, e.g. the *_Control
  ↳ structures of the API objects. They are only necessary for the
  ↳ application configuration. Move them to separate header files.
  ↳ Currently we have:
2
3 * <rtems/rtems/XYZ.h>
4 * <rtems/rtems/XYZimpl.h>
5
6 Use
7
8 * <rtems/rtems/XYZdata.h>
9
10 for this new header file.
11
12 Potential new header files are:
13
14 * rtems/rtems/asrdata.h
15 - * rtems/rtems/attrdata.h
16 * rtems/rtems/barrierdata.h
17 * rtems/rtems/dpmemdata.h
18 * rtems/rtems/eventdata.h
19 * rtems/rtems/messagedata.h
20 * rtems/rtems/modesdata.h
21 * rtems/rtems/optionsdata.h
22 * rtems/rtems/partdata.h
23 * rtems/rtems/ratemondata.h
24 * rtems/rtems/regiondata.h
25 * rtems/rtems/semdata.h
26 * rtems/rtems/signaldata.h
27 - * rtems/rtems/statusdata.h
28 * rtems/rtems/tasksdata.h
29 * rtems/rtems/timerdata.h

```

Author: Trac Migrate 2018-11-08T08:09:48.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 The <rtems.h> header file still exposes a lot of implementation details.
  ↳via the definition of internal data structures, e.g. the *_Control_
  ↳structures of the API objects. They are only necessary for the
  ↳application configuration. Move them to separate header files.
  ↳Currently we have:
2
3 * <rtems/rtems/XYZ.h>
4 * <rtems/rtems/XYZimpl.h>
5
6 Use
7
8 * <rtems/rtems/XYZdata.h>
9
10 for this new header file.
11
12 Potential new header files are:
13
14 * rtems/rtems/asrdata.h
15 * rtems/rtems/barrierdata.h
16 * rtems/rtems/dpmemdata.h
17 * rtems/rtems/eventdata.h
18 * rtems/rtems/messagedata.h
19 - * rtems/rtems/modesdata.h
20 * rtems/rtems/optionsdata.h
21 * rtems/rtems/partdata.h
22 * rtems/rtems/ratemondata.h
23 * rtems/rtems/regiondata.h
24 * rtems/rtems/semdata.h
25 * rtems/rtems/signaldata.h
26 * rtems/rtems/tasksdata.h
27 * rtems/rtems/timerdata.h

```

Author: Trac Migrate 2018-11-08T08:11:57.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 The <rtems.h> header file still exposes a lot of implementation details.
  ↳via the definition of internal data structures, e.g. the *_Control_
  ↳structures of the API objects. They are only necessary for the
  ↳application configuration. Move them to separate header files.
  ↳Currently we have:
2
3 * <rtems/rtems/XYZ.h>
4 * <rtems/rtems/XYZimpl.h>
5
6 Use

```

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```

7
8 * <rtems/rtems/XYZdata.h>
9
10 for this new header file.
11
12 Potential new header files are:
13
14 * rtems/rtems/asrdata.h
15 * rtems/rtems/barrierdata.h
16 * rtems/rtems/dpmemdata.h
17 * rtems/rtems/eventdata.h
18 * rtems/rtems/messagedata.h
19 - * rtems/rtems/optionsdata.h
20 * rtems/rtems/partdata.h
21 * rtems/rtems/ratemondata.h
22 * rtems/rtems/regiondata.h
23 * rtems/rtems/semdata.h
24 * rtems/rtems/signaldata.h
25 * rtems/rtems/tasksdata.h
26 * rtems/rtems/timerdata.h

```

Author: Trac Migrate 2018-11-08T09:47:26.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 The <rtems.h> header file still exposes a lot of implementation details.
2   ↳ via the definition of internal data structures, e.g. the *_Control
3   ↳ structures of the API objects. They are only necessary for the
4   ↳ application configuration. Move them to separate header files.
5   ↳ Currently we have:
6
7
8 * <rtems/rtems/XYZ.h>
9 * <rtems/rtems/XYZimpl.h>
10
11 Use
12
13 * <rtems/rtems/XYZdata.h>
14
15 for this new header file.
16
17 Potential new header files are:
18
19 * rtems/rtems/asrdata.h
20 * rtems/rtems/barrierdata.h
21 * rtems/rtems/dpmemdata.h

```

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```

17 * rtems/rtems/eventdata.h
18 * rtems/rtems/messagedata.h
19 * rtems/rtems/partdata.h
20 * rtems/rtems/ratemondata.h
21 * rtems/rtems/regiondata.h
22 * rtems/rtems/semdata.h
23 - * rtems/rtems/signaldata.h
24 * rtems/rtems/tasksdata.h
25 * rtems/rtems/timerdata.h

```

Author: Trac Migrate 2018-11-08T12:19:56.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 The <rtems.h> header file still exposes a lot of implementation details.
  ↳ via the definition of internal data structures, e.g. the *_Control
  ↳ structures of the API objects. They are only necessary for the
  ↳ application configuration. Move them to separate header files.
  ↳ Currently we have:
2
3 * <rtems/rtems/XYZ.h>
4 * <rtems/rtems/XYZimpl.h>
5
6 Use
7
8 * <rtems/rtems/XYZdata.h>
9
10 for this new header file.
11
12 Potential new header files are:
13
14 + * rtems/extensiondata.h
15 * rtems/rtems/asrdata.h
16 * rtems/rtems/barrierdata.h
17 * rtems/rtems/dpmemdata.h
18 * rtems/rtems/eventdata.h
19 * rtems/rtems/messagedata.h
20 * rtems/rtems/partdata.h
21 * rtems/rtems/ratemondata.h
22 * rtems/rtems/regiondata.h
23 * rtems/rtems/semdata.h
24 * rtems/rtems/tasksdata.h
25 * rtems/rtems/timerdata.h

```

Author: Trac Migrate 2018-11-08T12:20:15.000Z

Original author: sebastian.huber

In [changeset:"ac8025c113ad55f11149aab71d9662c54a553f1e/rtems"
ac8025c/rtems]:

```
1 libcsupport: Add missing include
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-08T12:20:23.000Z

Original author: sebastian.huber

In [changeset:"4f4ed2f0e3ca6b6dfe0eba585ce1171280261626/rtems"
4f4ed2f0/rtems]:

```
1 rtems: Add missing include
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-09T14:08:40.000Z

Original author: sebastian.huber

In [changeset:"028853637f1c59e80bf8b5d19041345ee883a830/rtems"
0288536/rtems]:

```
1 bsps: Include missing header files
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-09T14:08:50.000Z

Original author: sebastian.huber

In [changeset:"fdd3b85022b3fb9484f36e3b4cf755b584093cb1/rtems"
fdd3b85/rtems]:

```
1 bsp/motorola_powerpc: Include <sys/param.h>
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-09T14:09:00.000Z

Original author: sebastian.huber

In [changeset:"5841e0b8510175369148b3ba4a8ed6688e5d0da5/rtems"
5841e0b/rtems]:

```
1 bsp/lpc32xx: Include missing <time.h>
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-09T14:09:09.000Z

Original author: sebastian.huber

In [changeset:"84aedcae3bb9c83bab6d76eed73ce81f330b46ed/rtems"
84aedca/rtems]:

```
1 Include missing <rtems/score/thread.h>
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:37:48.000Z

Original author: sebastian.huber

In [changeset:"93fae332a9b6d824bbfe62bea77364e40c3af372/rtems"
93fae332/rtems]:

```
1 Include missing <sys/types.h>
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:37:56.000Z

Original author: sebastian.huber

In [changeset:"78bbe5940b385269de8282e0224c25d020478bc1/rtems"
78bbe59/rtems]:

```
1 rtems: Move internal structures to ratemondata.h
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:38:05.000Z

Original author: sebastian.huber

In [changeset:"257cf743a5c69f9dd302fe31d99978f84970ad64/rtems"
257cf74/rtems]:

```
1 rtems: Move internal structures to asrdata.h
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:38:13.000Z

Original author: sebastian.huber

In [changeset:"bdd4eb8786a7bac71ea9e95c2b313b0014e77f81/rtems" bdd4eb8/rtems]:

```
1 rtems: Remove Modes_Control
2
3 Use rtems_mode directly. This is in line with rtems_attribute and
4 rtems_option.
5
6 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:38:22.000Z

Original author: sebastian.huber

In [changeset:"395a49e199882f0461233465a5db56ab06d0cb28/rtems" 395a49e1/rtems]:

```
1 rtems: Move internal structures to barrierdata.h
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:38:30.000Z

Original author: sebastian.huber

In [changeset:"72a4a4298487432ab4eadaa48ac2285eb08711e7/rtems" 72a4a42/rtems]:

```
1 rtems: Move internal structures to dpmemdata.h
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:38:38.000Z

Original author: sebastian.huber

In [changeset:"efc227cd7dfeba75d6d68b88a7db715bc53cbdec/rtems" efc227cd/rtems]:

```
1 rtems: Move internal structures to eventdata.h
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:38:47.000Z

Original author: sebastian.huber

In [changeset:"257668dc5d4e0ba036bc4d5aef2925432d5d5af6/rtems"
257668d/rtems]:

```
1 rtems: Move internal structures to messagedata.h
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:38:56.000Z

Original author: sebastian.huber

In [changeset:"f00c5c6e347f72d272545ba71b4b22ae45b6d113/rtems"
f00c5c6/rtems]:

```
1 rtems: Move internal structures to partdata.h
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:39:04.000Z

Original author: sebastian.huber

In [changeset:"e8e914b3b13d60c47bd8ebf29d421cbcf8ff698a/rtems"
e8e914b3/rtems]:

```
1 rtems: Move internal structures to regiondata.h
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:39:12.000Z

Original author: sebastian.huber

In [changeset:"739df1f58390e4f755807df0da99c6a38a334246/rtems"
739df1f5/rtems]:

```
1 rtems: Move internal structures to semdata.h
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:39:20.000Z

Original author: sebastian.huber

In [changeset:"b7af3e449a513c6f4b5623ddeb35b8d61399f8f5/rtems"
b7af3e44/rtems]:


```

1 rtems: Move internal structures to taskdata.h
2
3 Update #3598.

```

Author: Trac Migrate 2018-11-12T14:39:29.000Z

Original author: sebastian.huber

In [changeset:"e1b7c18839a633162d0bcfbfb2e97a5eda49d14d/rtems" e1b7c188/rtems]:

```

1 rtems: Move internal structures to timerdata.h
2
3 Update #3598.

```

Author: Trac Migrate 2018-11-12T14:39:37.000Z

Original author: sebastian.huber

In [changeset:"5fc855d96059236268e9b3a93fd79f2e91a4a8e4/rtems" 5fc855d/rtems]:

```

1 rtems: Move internal structures to extensiondata.h
2
3 Update #3598.

```

Author: Trac Migrate 2018-11-12T14:39:45.000Z

Original author: sebastian.huber

In [changeset:"742d6db1255a79884b587b3dbd5efca454c0743f/rtems" 742d6db/rtems]:

```

1 score: Remove empty <rtems/score/tod.h>
2
3 Update #3598.

```

Author: Trac Migrate 2018-11-12T14:39:53.000Z

Original author: sebastian.huber

In [changeset:"a11b98c906a85292055d297ec92c15b342f0f52b/rtems" a11b98c/rtems]:

```

1 score: Avoid include of <rtems/score/thread.h>
2
3 Update #3598.

```

Author: Trac Migrate 2018-11-12T14:40:01.000Z

Original author: sebastian.huber

In [changeset:"98c01a53c808a33e63d0e52490cc1c10a9dd1038/rtems" 98c01a5/rtems]:

```
1 rtems: Avoid <rtems/score/timecounter.h> in API
2
3 Use a real function for rtems_clock_get_uptime_seconds().
4
5 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:40:10.000Z

Original author: sebastian.huber

In [changeset:"ccc6695c843e8cb83df4dd8e6b1dc43c9df33216/rtems" ccc6695/rtems]:

```
1 score: Introduce <rtems/score/watchdogticks.h>
2
3 Separate the definitions related to watchdog ticks from the watchdog
4 structures.
5
6 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:40:18.000Z

Original author: sebastian.huber

In [changeset:"9763245eed92112a0effec4b76af4063e13c008b/rtems" 9763245/rtems]:

```
1 rtems: Remove superfluous include
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:40:26.000Z

Original author: sebastian.huber

In [changeset:"805f9c262652d2700705e7233ef40936acb35d10/rtems" 805f9c26/rtems]:

```
1 score: Avoid complex include in heap.h
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:40:34.000Z

Original author: sebastian.huber

In [changeset:"2fa014db14b819b829535170a93fa25b599c5a34/rtems" 2fa014db/rtems]:

```
1 rtems: Avoid include of <rtems/score/thread.h>
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:40:43.000Z

Original author: sebastian.huber

In [changeset:"e897c7dd76401bf880c179c875c25dc8954a3688/rtems" e897c7d/rtems]:

```
1 rtems: Avoid include of <rtems/score/scheduler.h>
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:40:51.000Z

Original author: sebastian.huber

In [changeset:"a6e7d5e492fd5e4c361d4d9aa13eb0eb951b386a/rtems" a6e7d5e4/rtems]:

```
1 score: Move internal structures to objectdata.h
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:41:00.000Z

Original author: sebastian.huber

In [changeset:"3b69a0e2e0198cb51ba915daea43761c9e71b9fc/rtems" 3b69a0e2/rtems]:

```
1 rtems: Simplify includes in <rtems/rtems/cache.h>
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:41:08.000Z

Original author: sebastian.huber

In [changeset:"356b07e68f47d4e4391fb26ed467780867bb40c2/rtems" 356b07e6/rtems]:

```
1 score: Includes in <rtems/score/smplockstats.h>
2
3 Include implementation header files only if necessary.
4
5 Update #3598.
```

Author: Trac Migrate 2018-11-12T14:41:17.000Z

Original author: sebastian.huber

In [changeset:"963c6c2ac467705410aa86a0276a00ece716789a/rtems" 963c6c2/rtems]:

```
1 score: Move internal structures to userextdata.h
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-13T09:18:02.000Z

Original author: sebastian.huber

In [changeset:"9f87c4586bd3a52b83c4493a91fbfddb8ca85356/rtems-libbsd" 9f87c45/rtems-libbsd]:

```
1 Include missing <sys/types.h>
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-14T06:24:28.000Z

Original author: sebastian.huber

In [changeset:"dc563556339caa13b6579dce93f7981ff414a40f/rtems" dc563556/rtems]:

```
1 Include missing <sys/cpuset.h>
2
3 Update #3598.
```

Author: Trac Migrate 2018-11-26T11:31:39.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"5fc727fe77a632f9df38161a8474007dab020608/rtems" 5fc727f/rtems]:

```
1 score: <rtems/score/smplockstats.h>
2
3 Remove <rtems/score/chainimpl.h> include from
4 <rtems/score/smplockstats.h>.
5
6 Close #3598.
```

Author: Trac Migrate 2018-11-26T11:31:42.000Z

Original author: sebastian.huber

In [changeset:"eaa5ea84eaf1b3dab72d7a7a6578f0dc59e55396/rtems" eaa5ea84/rtems]:

```
1 score: Introduce <rtems/score/heapinfo.h>
2
3 Move Heap_Information_block to separate header file to hide heap
4 implementation details from <rtems.h>.
5
6 Update #3598.
```

Author: Trac Migrate 2018-12-07T13:33:58.000Z

Original author: sebastian.huber

In [changeset:"ef23838543337105de4070ff2ef0d45b078f6812/rtems" ef23838/rtems]:

```
1 score: Avoid sbintime_t in API headers
2
3 The sbintime_t is a non-POSIX type and not visible if strict standard
4 options are selected.
5
6 Move implementation details from <rtems/score/timestamp.h> to
7 <rtems/score/timestampimpl.h>.
8
9 Update #3598.
```

Author: Amar Takhar 2024-04-25T20:46:42.298Z

changed the description

4.2.1.181 3595 - Deprecate `rtems_rate_monotonic_period_time_t`

Id	3595
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-07T13:00:28.000Z
Updated	2024-04-25T20:46:40.856Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3595
Merges	0

Original author: sebastian.huber

The `rtems_rate_monotonic_period_time_t` typedef as no corresponding API. It violates the POSIX namespace. A user can do nothing with it. It is only used in `cpukit/include/rtems/rtems/ratemon.h` in RTEMS. Deprecate it in this release.

Author: Trac Migrate 2018-11-09T06:26:22.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1e039fb37a534befd58d3b44cc5d95ccc54192d0/rtems" 1e039fb3/rtems]:

```

1 rtems: Deprecate rtems_rate_monotonic_period_time_t
2
3 The rtems_rate_monotonic_period_time_t typedef as no corresponding API.
4 It violates the POSIX namespace. A user can do nothing with it.
5
6 Close #3595.
```

Author: Amar Takhar 2024-04-25T20:46:40.893Z

changed the description

4.2.1.182 3593 - Deprecate `rtems_thread_cpu_usage_t`

Id	3593
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-07T12:52:54.000Z
Updated	2024-04-25T20:46:39.995Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3593
Merges	0

Original author: sebastian.huber

The `rtems_thread_cpu_usage_t` typedef as no corresponding API. It violates the POSIX namespace. A user can do nothing with it. It is only used in `cpukit/include/rtems/rtems/ratemon.h` in RTEMS. Deprecate it in this release.

Author: Trac Migrate 2018-11-09T06:26:15.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"aacc7a035f42437e909f823e85c74545c89a4124/rtems" aacc7a0/rtems]:

```

1 rtems: Deprecate rtems_thread_cpu_usage_t
2
3 The rtems_thread_cpu_usage_t typedef as no corresponding API. It
4 violates the POSIX namespace. A user can do nothing with it.
5
6 Close #3593.
```

Author: Amar Takhar 2024-04-25T20:46:40.034Z

changed the description

4.2.1.183 3591 - Deprecate region_information_block

Id	3591
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-07T12:49:28.000Z
Updated	2024-04-25T20:46:39.110Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3591
Merges	0

Original author: sebastian.huber

The region_information_block typedef as no corresponding API. It has no proper namespace prefix. A user can do nothing with it. It is only used in cpukit/libmisc/cpuuse/cpuusagetop.c and cpukit/libmisc/shell/main_mallocinfo.c in RTEMS. Deprecate it in this release.

Author: Trac Migrate 2018-11-09T06:26:07.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d53862a30b2d52370d648b6a1a3dc0a3f33bc88d/rtems"d53862a/rtems]:

```

1 rtems: Deprecate region_information_block
2
3 The region_information_block typedef as no corresponding API. It has no
4 proper namespace prefix. A user can do nothing with it.
5
6 Close #3591.
```

Author: Amar Takhar 2024-04-25T20:46:39.149Z

changed the description

4.2.1.184 3589 - Deprecate rtems_context_fp

Id	3589
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-07T12:45:29.000Z
Updated	2024-04-25T20:46:38.236Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3589
Merges	0

Original author: sebastian.huber

The rtems_context_fp typedef as no corresponding API. A user can do nothing with it. It is only used in cpukit/libmisc/monitor/mon-editor.c in RTEMS. Deprecate it in this release.

Author: Trac Migrate 2018-11-08T07:11:27.000Z

Original author: sebastian.huber

In [changeset:"ef30eb1c4d9e3cc6cc3f52091d37d7ecbec89bf6/rtems" ef30eb1/rtems]:

```
1 monitor: Remove dead code
2
3 Update #3587.
4 Update #3589.
```

Author: Trac Migrate 2018-11-09T06:25:59.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"7e86e0027c15702224e722b4b94ed659204db87f/rtems" 7e86e00/rtems]:

```
1 rtems: Deprecate rtems_context_fp
2
3 The rtems_context_fp typedef as no corresponding API. A user can do
4 nothing with it.
5
6 Close #3589.
```

Author: Amar Takhar 2024-04-25T20:46:38.274Z

changed the description

4.2.1.185 3587 - Deprecate rtems_context

Id	3587
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-07T12:42:48.000Z
Updated	2024-04-25T20:46:37.379Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3587
Merges	0

Original author: sebastian.huber

The `rtems_context` typedef as no corresponding API. A user can do nothing with it. It is only used in `cpukit/libmisc/monitor/mon-monitor.c` and `cpukit/libmisc/monitor/mon-editor.c` in RTEMS. Deprecate it in this release.

Author: Trac Migrate 2018-11-07T12:44:33.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 - The rtems_context typedef as no corresponding API. A user can do_
   ↳ nothing with it. It is only used in cpukit/libmisc/monitor/mon-editor.
   ↳ c in RTEMS. Deprecate it in this release.
2 ?
   ↳
   ↳ ^^^^^^^^^^^^^
3
4 + The rtems_context typedef as no corresponding API. A user can do_
   ↳ nothing with it. It is only used in ccpukit/libmisc/monitor/mon-
   ↳ monitor.c and pukit/libmisc/monitor/mon-editor.c in RTEMS. Deprecate_
   ↳ it in this release.
5 ?
   ↳
   ↳ +
   ↳ ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

```

Author: Trac Migrate 2018-11-07T12:46:12.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 - The rtems_context typedef as no corresponding API. A user can do_
  ↳ nothing with it. It is only used in ccpukit/libmisc/monitor/mon-
  ↳ monitor.c and pukit/libmisc/monitor/mon-editor.c in RTEMS. Deprecate_
  ↳ it in this release.
2 ?
  ↳
3
4 + The rtems_context typedef as no corresponding API. A user can do_
  ↳ nothing with it. It is only used in cpukit/libmisc/monitor/mon-
  ↳ monitor.c and cpukit/libmisc/monitor/mon-editor.c in RTEMS. Deprecate_
  ↳ it in this release.
5 ?
  ↳
  ↳ +

```

Author: Trac Migrate 2018-11-08T07:11:27.000Z

Original author: sebastian.huber

In [changeset:"ef30eb1c4d9e3cc6cc3f52091d37d7ecbec89bf6/rtems" ef30eb1/rtems]:

```

1 monitor: Remove dead code
2
3 Update #3587.
4 Update #3589.

```

Author: Trac Migrate 2018-11-09T06:25:51.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"0ac4a777c1e51ef3a7bdf8fad17998ef5d7d472c/rtems" 0ac4a77/rtems]:

```

1 rtems: Deprecate rtems_context
2
3 The rtems_context typedef as no corresponding API. A user can do
4 nothing with it.
5
6 Close #3587.

```

Author: Amar Takhar 2024-04-25T20:46:37.417Z

changed the description

4.2.1.186 3585 - Deprecate proc_ptr

Id	3585
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-07T12:38:13.000Z
Updated	2024-04-25T20:46:36.512Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, ticket-type::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3585
Merges	0

Original author: sebastian.huber

See comment in basedefs.h

```
1 /**
2  * XXX: Eventually proc_ptr needs to disappear!!!
3  */
4 typedef void * proc_ptr;
```

Author: Trac Migrate 2018-11-12T14:41:25.000Z

Original author: sebastian.huber

In [changeset:"b15b2881795d87ea87cff94fdb1a25e977d7d9c9/rtems" b15b288/rtems]:

```
1 score: Deprecate proc_ptr
2
3 Update #3585.
```

Author: Trac Migrate 2018-11-12T14:41:33.000Z

Original author: sebastian.huber

In [changeset:"3faa845984ab26e9cff8c8af8dc905e84d96ffe1/rtems" 3faa8459/rtems]:

```

1 rtems: Simplify rtems_interrupt_catch()
2
3 Remove casts and superfluous inline functions.
4
5 Update #3585.

```

Author: Trac Migrate 2018-11-12T14:41:40.000Z

Original author: sebastian.huber

In [\[changeset:"d997aa1f0e0e149bfff3fd6d7ec0a605f25cc7c/rtems"d997aa1/rtems\]](#):

```

1 no_cpu: Remove use of proc_ptr
2
3 Update #3585.

```

Author: Trac Migrate 2018-11-12T14:41:48.000Z

Original author: sebastian.huber

In [\[changeset:"685aa280eaa95c2790bc09c42b6dff2261a220d7/rtems"685aa28/rtems\]](#):

```

1 arm: Remove use of proc_ptr
2
3 Update #3585.

```

Author: Trac Migrate 2018-11-12T14:41:57.000Z

Original author: sebastian.huber

In [\[changeset:"8203db45d525b782a258e2ba866283832fdf182a/rtems"8203db45/rtems\]](#):

```

1 bfin: Remove use of proc_ptr
2
3 Update #3585.

```

Author: Trac Migrate 2018-11-12T14:42:05.000Z

Original author: sebastian.huber

In [\[changeset:"a043ff859d9f22dafa5c166acb26668b09df259/rtems"a043ff8/rtems\]](#):

```
1 epiphany: Remove use of proc_ptr
2
3 Update #3585.
```

Author: Trac Migrate 2018-11-12T14:42:13.000Z

Original author: sebastian.huber

In [changeset:"3c6a6e80ecc92f0c5bd1dacfd3b833d7b7240f0b/rtems" 3c6a6e8/rtems]:

```
1 i386: Remove use of proc_ptr
2
3 Update #3585.
```

Author: Trac Migrate 2018-11-12T14:42:21.000Z

Original author: sebastian.huber

In [changeset:"0e16fa45cd0eec8ca9d1404b8c1a40401a96e7ec/rtems" 0e16fa45/rtems]:

```
1 lm32: Remove use of proc_ptr
2
3 Update #3585.
```

Author: Trac Migrate 2018-11-12T14:42:29.000Z

Original author: sebastian.huber

In [changeset:"5c6edeed512b84d065fb9eff34c03558457b408f/rtems" 5c6edee/rtems]:

```
1 m68k: Remove use of proc_ptr
2
3 Update #3585.
```

Author: Trac Migrate 2018-11-12T14:42:36.000Z

Original author: sebastian.huber

In [changeset:"b6be8f33a0eb6c85627c315039271adc67ef66d2/rtems" b6be8f33/rtems]:

```
1 mips: Remove use of proc_ptr
2
3 Update #3585.
```

Author: Trac Migrate 2018-11-12T14:42:44.000Z

Original author: sebastian.huber

In [changeset:"264e1284658b27f7ca30c767114900d564f1bda1/rtems"
264e128/rtems]:

```
1 moxie: Remove use of proc_ptr
2
3 Update #3585.
```

Author: Trac Migrate 2018-11-12T14:42:52.000Z

Original author: sebastian.huber

In [changeset:"12dfa5e26fff003cea0115381797e9daa5ceb633/rtems"
12dfa5e/rtems]:

```
1 nios2: Remove use of proc_ptr
2
3 Update #3585.
```

Author: Trac Migrate 2018-11-12T14:42:59.000Z

Original author: sebastian.huber

In [changeset:"54c5ffc4fbb949a4df74dc4ad1fd54ea263e43f/rtems"
54c5ffc/rtems]:

```
1 or1k: Remove use of proc_ptr
2
3 Update #3585.
```

Author: Trac Migrate 2018-11-12T14:43:07.000Z

Original author: sebastian.huber

In [changeset:"ed9da8e82108cddfe644c0b262aa3d4c8d434304/rtems"
ed9da8e/rtems]:

```
1 powerpc: Remove use of proc_ptr
2
3 Update #3585.
```

Author: Trac Migrate 2018-11-12T14:43:15.000Z

Original author: sebastian.huber

In [changeset:"510fbfc314a5eb50ce68bb7c2df2b3056e479e99/rtems" 510fbfc3/rtems]:

```
1 sh: Remove use of proc_ptr
2
3 Update #3585.
```

Author: Trac Migrate 2018-11-12T14:43:23.000Z

Original author: sebastian.huber

In [changeset:"ce37237f965b9c17c8fc66077bd2de5a7dafaac5/rtems" ce37237f/rtems]:

```
1 sparc: Remove use of proc_ptr
2
3 Update #3585.
```

Author: Trac Migrate 2018-11-12T14:43:31.000Z

Original author: sebastian.huber

In [changeset:"70928bc98bc40e82394e714013ffdac29732ad2e/rtems" 70928bc9/rtems]:

```
1 sparc64: Remove use of proc_ptr
2
3 Update #3585.
```

Author: Trac Migrate 2018-11-12T14:43:38.000Z

Original author: sebastian.huber

In [changeset:"4539e307626b0c8ab977efa4b8eba42aa63d17ce/rtems" 4539e307/rtems]:

```
1 x86_64: Remove use of proc_ptr
2
3 Update #3585.
```

Author: Joel Sherrill 2019-12-12T23:18:18.000Z

Original author: sebastian.huber

This appears to have been resolved last year. There are no references to `proc_ptr` beyond the following:


```

1 b15b2881 cpukit/include/rtems/score/basedefs.h      (Sebastian Huber
  ↪ 2018-11-08 06:25:06 +0100 564)    typedef void * proc_ptr RTEMS_
  ↪ DEPRECA

```

Author: Joel Sherrill 2019-12-12T23:18:26.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Author: Amar Takhar 2024-04-25T20:46:36.551Z

changed the description

4.2.1.187 3583 - Add rtems_malloc() and rtems_calloc()

Id	3583
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-07T11:56:08.000Z
Updated	2024-04-25T20:46:35.634Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3583
Merges	0

Original author: sebastian.huber

The standard C/POSIX functions malloc() and calloc() set errno in case of an error. A dependency to errno pulls in getreent() which pulls in a lot of data structures and functions. This is an issue in low level code especially in the area of a basic board support package initialization and device drivers.

Provide rtems_malloc() and rtems_calloc() functions declared in <rtems/malloc.h> which do the same as the corresponding C/POSIX functions except setting errno.

The posix_memalign() and aligned_alloc() functions do not have this issue with the errno.

Author: Trac Migrate 2018-11-12T14:43:46.000Z

Original author: sebastian.huber

In [changeset:"c1f3c2b88a8bc902ec019a7fcf916af5674bc29b/rtems" c1f3c2b8/rtems]:

```
1 score: Add and use malloc() family attributes
2
3 Update #3583.
```

Author: Trac Migrate 2018-11-12T14:43:54.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”6efc831f0ff3d975fa9086a46c3a67b6f2b95100/rtems”
6efc831/rtems]:

```
1 Add rtems_malloc() and rtems_calloc()
2
3 Close #3583.
```

Author: Amar Takhar 2024-04-25T20:46:35.674Z

changed the description

4.2.1.188 3569 - waf version in various rtems-repositories incompatible with python 3.7

Id	3569
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2018-10-25T07:31:14.000Z
Updated	2024-04-25T20:46:33.598Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::build, tickettype::defect, tool::waf, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3569
Merges	0

Original author: mamu

The current waf version included in rtems-tools is waf 1.9.9 (389f3f3b289f6b835a21ad4e128076cdb463d34d) it crashes when executed with python3. The current version of waf is 2.0.12 and resolves this issue.

- [Bildschirmfoto von 2018-10-25 09-30-47.png](#)

Author: Trac Migrate 2018-10-25T07:31:53.000Z

Original author: mamu

- **Attachment** [Bildschirmfoto von 2018-10-25 09-30-47.png](#) added
screenshot of the use python version, the broken version and the working version.

Author: Chris Johns 2018-11-11T00:51:33.000Z

Original author: mamu

- **Milestone** set to %”5.1”

Author: Trac Migrate 2018-12-18T17:32:24.000Z

Original author: mamu

This is a problem with old waf versions and python 3.7. See <https://gitlab.com/ita1024/waf/commit/facdc0b173d933073832c768ec1917c553cb369c> for details.

Author: Trac Migrate 2018-12-18T17:37:35.000Z

Original author: mamu

In [changeset:”e59f4ee300ba71db46b35e04afe541d9125eb8d6/rtems-tools”
e59f4ee/rtems-tools]:

```
1 waf: Update to waf-2.0.13.
2
3 This fixes a problem with python 3.7.
4
5 Update #3569.
```

Author: Trac Migrate 2018-12-19T09:03:11.000Z

Original author: mamu

- **Summary** changed from *waf version in rtems-tools incompatible with python3*
to *waf version in various rtems-repositories incompatible with python 3.7*

That problem is also true for the following three repositories: * rtems-libbsd * rtems-
docs * examples-v2

I adapted the title of the bug report to reflect that.

Author: Trac Migrate 2018-12-21T15:06:00.000Z

Original author: mamu

In [changeset:”2fac55d09b03e914e6f4460d4f46a2920ef7c45a/rtems-source-
builder” 2fac55d/rtems-source-builder]:

```

1 5/rtems-tools: Update RTEMS tools
2
3 Picks up the new waf in rtems-tools to be compatible with python 3.7 and
4 some tester updates.
5
6 Update #3569.

```

Author: Trac Migrate 2020-02-26T10:41:30.000Z

Original author: mamu

In [changeset:"4a2f3e5a58978458aabb5098c2c9dd0cc6d25c68/rtems-tools" 4a2f3e5/rtems-tools]:

```

1 waf: Update to waf-2.0.19
2
3 Update #3569.

```

Author: Trac Migrate 2020-02-26T10:46:33.000Z

Original author: mamu

In [changeset:"14c5cb77132a3e66afab571afbf67dacad433ec3/rtems-source-builder" 14c5cb7/rtems-source-builder]:

```

1 5: Update rtems-tools
2
3 Pick up update to waf-2.0.19.
4
5 Update #3569.

```

Author: Trac Migrate 2020-02-26T13:27:20.000Z

Original author: mamu

In [changeset:"e068cbf96a647df84aabc50b6fdb57b99c4fa33/rtems-docs" e068cbf/rtems-docs]:

```

1 waf: Update to waf-2.0.19
2
3 Update #3569.

```

Author: Trac Migrate 2020-02-27T07:49:59.000Z

Original author: mamu

- **Resolution** set to ~"fixed"

- **Status** changed from *assigned* to *closed*

I updated also rtems-libbd and rtems-examples (these repositories seem to be not covered by the server Git hooks).

Author: Amar Takhar 2024-04-25T20:46:33.706Z

changed the description

4.2.1.189 3553 - rtems-libbsd Missing waf in Top Directory

Id	3553
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-10-18T21:53:12.000Z
Updated	2024-04-25T20:46:33.152Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::build, tickettype::defect, tool::waf, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3553
Merges	0

At least examples-v2 and rtems-libbsd use waf to build. examples-v2 has a copy of waf known to work for the users' convenience. rtems-libbsd is missing one. Add one to rtems-libbsd.

Also (if there are other repos using waf), make sure they have a copy of waf also.

Author: Joel Sherrill 2018-10-25T22:06:08.000Z

- **Summary** changed from *rterms-libbsd Missing waf in Top Directory* to *rtems-libbsd Missing waf in Top Directory*

Author: Joel Sherrill 2018-10-26T21:14:41.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

<https://git.rtems.org/rtems-libbsd/commit/?id=4ed04cbc0696f0f78029241b8224e7eab4f9bbfe>

Author: Amar Takhar 2024-04-25T20:46:33.188Z

changed the description

4.2.1.190 3551 - Move default configuration to separate library

Id	3551
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-10-15T06:21:45.000Z
Updated	2024-04-25T20:46:32.689Z
Milestone	5.1
Labels	library, priority::normal, qualification, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3551
Merges	0

Original author: sebastian.huber

An RTEMS application default configuration is contained in cpukit/libmisc/dummy/default-configuration.c. This default configuration is contained in librtemscpu.a. This has at least two problems:

1. Application configuration errors may pull in the default configuration which in turn leads to multiply define symbols error. This is quite confusing. You have to consult the linker map file to figure out what caused the pull in of the default configurations. You need to know what a linker map file is and how you generate it with your build system. This is not very user friendly.
2. It prevents the use of default configuration items for each subsystem in librtemscpu.a. This can be used to reduce the size of the configuration itself.

Proposed change: Move the default configuration to a separate library, e.g. librtemsdefaultconfig.a.

Author: Trac Migrate 2018-10-23T14:12:55.000Z

Original author: sebastian.huber

In [changeset:"1b896361d302aeda0145af90972aea863e28898f/rtems_waf" 1b89636/rtems_waf]:

```

1 Avoid default RTEMS application configuration
2
3 Use a test body with a proper RTEMS application configuration to avoid a
4 dependency on the default configuration. Do not include
5 <rtems/score/cpuopts.h> directly since this header file is an
6 implementation detail.
7
8 Update #3551.
```

Author: Trac Migrate 2018-10-25T05:52:50.000Z

Original author: sebastian.huber

In [changeset:"2ce13cf6dc73855f28bc7edbbc64dc4b482a4976/rtems-libbsd" 2ce13cf/rtems-libbsd]:

```
1 Update rtems_waf
2
3 Update #3551.
```

Author: Trac Migrate 2018-10-25T05:57:01.000Z

Original author: sebastian.huber

In [changeset:"15c9509d4034e45c8698ad7f4cdb98440f5fe6cc/examples-v2" 15c9509/examples-v2]:

```
1 Update rtems_waf
2
3 Update #3551.
```

Author: Trac Migrate 2018-10-30T06:11:50.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"55b69ed28e7ebb77debd98aa9dea6ee34ff79ff1/rtems" 55b69ed/rtems]:

```
1 Move default config to librtemsdefaultconfig.a
2
3 An RTEMS application default configuration is contained in
4 cpukit/libmisc/dummy/default-configuration.c. This default
5 configuration was contained in librtemscpu.a. This had at least two
6 problems:
7
8 1. Application configuration errors may have pulled in the default
9 configuration which in turn lead to multiply define symbols error.
10 This was quite confusing. You had to consult the linker map file to
11 figure out what cased the pull in of the default configuration. You
12 needed to know what a linker map file is and how you generate it with
13 your build system. This was not very user friendly.
14
15 2. It prevented the use of default configuration items for each_
16 ↪ subsystem
17 in librtemscpu.a. This may be used to reduce the size of the
18 configuration itself.
19 Move the default configuration to the separate library
```

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```
20 librtmsdefaultconfig.a.  
21  
22 Close #3551.
```

Author: Trac Migrate 2018-11-08T13:00:54.000Z

Original author: sebastian.huber
In [changeset:"942d52a260138dc5b1167ad6d3ae8e7d8a3eda21/rtems"
942d52a/rtems]:

```
1 build: Fix library order  
2  
3 Update #3551.
```

Author: Amar Takhar 2024-04-25T20:46:32.731Z

changed the description

4.2.1.191 3539 - Remove CPU_PROVIDES_IDLE_THREAD_BODY

Id	3539
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-10-04T06:04:34.000Z
Updated	2024-04-25T20:46:31.303Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, ticket-type::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3539
Merges	0

Original author: sebastian.huber
Remove the CPU_PROVIDES_IDLE_THREAD_BODY option to avoid unnecessary conditional compilation.

Author: Trac Migrate 2018-10-08T05:15:31.000Z

- Original author: sebastian.huber
- **Resolution** set to ~"fixed"
 - **Status** changed from *assigned* to *closed*

In [changeset:"8776bb94197613a369b47b3adf4b2d4e0ba766ed/rtems"8776bb9/rtems]:

```
1 score: Remove CPU_PROVIDES_IDLE_THREAD_BODY
2
3 Remove the CPU_PROVIDES_IDLE_THREAD_BODY option to avoid unnecessary
4 conditional compilation.
5
6 Close #3539.
```

Author: Amar Takhar 2024-04-25T20:46:31.341Z

changed the description

4.2.1.192 3533 - Add rtems_task_exit()

Id	3533
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-09-28T08:04:51.000Z
Updated	2024-04-25T20:46:30.862Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3533
Merges	0

Original author: sebastian.huber

The rtems_task_delete(RTEMS_SELF) function does not return. In order to aid compilers and static analysis tools provide an rtems_task_exit() function which can be specified as a no return function.

```
1 void rtems_task_exit(void) RTEMS_NO_RETURN;
```

This is similar to the POSIX equivalent.

```
1 void pthread_exit (void *__value_ptr) __dead2;
```

Author: Trac Migrate 2018-10-04T08:49:55.000Z

Original author: sebastian.huber

In [changeset:"e50e3f7087cfe6fab4c3a49398e4bd40fe2a2e33/rtems"e50e3f70/rtems]:

```

1 rtems: Add rtems_task_exit()
2
3 Update #3533.

```

Author: Trac Migrate 2018-10-04T08:50:06.000Z

Original author: sebastian.huber

In [changeset:"f004b2b8dc1fb78eb18b21ba6b50f6c712fd94f8/rtems" f004b2b8/rtems]:

```

1 Use rtems_task_exit()
2
3 Update #3530.
4 Update #3533.

```

Author: Trac Migrate 2018-10-04T09:05:52.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"6a20bd2f4f92d39afd06fc0746fd3e8a74b75513/rtems-docs" 6a20bd2/rtems-docs]:

```

1 c-user: Document rtems_task_exit()
2
3 Close #3533.

```

Author: Trac Migrate 2018-10-05T05:31:58.000Z

Original author: sebastian.huber

In [changeset:"8352d413ca69767cced91945709d4c0d172879c1/rtems" 8352d41/rtems]:

```

1 spthreadlife01: A task exit must not return
2
3 Update #3533.

```

Author: Trac Migrate 2018-10-08T05:15:42.000Z

Original author: sebastian.huber

In [changeset:"51b3cbca11b940d37b791b4d8009c2144db31ac6/rtems" 51b3cbca/rtems]:

```
1 tests: Use rtems_task_exit()
2
3 Update #3533.
```

Author: Amar Takhar 2024-04-25T20:46:30.903Z

changed the description

4.2.1.193 3520 - Remove CONFIGURE_HAS_OWN_FILESYSTEM_TABLE

Id	3520
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-09-17T08:25:55.000Z
Updated	2024-04-25T20:46:30.427Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3520
Merges	0

Original author: sebastian.huber

This configuration is untested and undocumented. Remove it to avoid a potential exposure of internal data structures to the application domain.

Author: Trac Migrate 2018-09-19T08:52:21.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"bd5cec416d7a70f65b08b665916181f9e945a704/rtems"bd5cec41/rtems]:

```
1 config: Remove CONFIGURE_HAS_OWN_FILESYSTEM_TABLE
2
3 This configuration was untested and undocumented. Remove it to avoid a
4 potential exposure of internal data structures to the application
5 domain.
6
7 Close #3520.
```

Author: Amar Takhar 2024-04-25T20:46:30.465Z

changed the description

4.2.1.194 3500 - Change rtems_waf's RTEMS path check from *bin* to *share/rtems<version>*

Id	3500
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2018-08-12T01:14:11.000Z
Updated	2024-04-25T20:46:28.744Z
Milestone	5.1
Labels	library::libbsd, priority::normal, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3500
Merges	0

Currently *rtems_waf* checks for a *bin* directory in the RTEMS path. There is no *bin* directory any more so this test needs to be changed to *share/rtems<version>*.

Author: Trac Migrate 2018-08-12T01:59:21.000Z

- **Owner** set to Chris Johns <chrisj@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"c0d52d5fcd9cad9b63479b92a0abf4fa5f5c99f3/rtems_waf" c0d52d5/rtems_waf]:

```

1 Change RTEMS path check from `bin` to `share/rtems<version>`.
2
3 There is no `bin` directory anymore with RTEMS 5 so the test fails.
4 ↪ Check
4 for the `share/rtems<version>` directory.
5
6 Closes #3500.
```

Author: Amar Takhar 2024-04-25T20:46:28.778Z

changed the description

4.2.1.195 3490 - Remove CONFIGURE_HAS_OWN_CONFIGURATION_TABLE

Id	3490
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-08-08T07:14:19.000Z
Updated	2024-04-25T20:46:28.309Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::task, version::5, version::6
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3490
Merges	0

Original author: sebastian.huber

This configuration option was obsoleted in RTEMS 5.1.

Author: Joel Sherrill 2018-08-08T13:42:38.000Z

Original author: sebastian.huber

I think I proposed removing option on the devel@ list a while back. Normally I prefer to deprecate for one cycle as this ticket proposes but I don't see how anyone could be using this. The rate of change to the internal configuration with addition of SMP has been intense. There have been no questions indicating someone is trying to trail the CONFIGURE_XXX interface on their own.

It isn't a huge feature, but I really don't think it is used. If there is consensus, I wouldn't be opposed to killing it now. But now a huge deal.

Author: Trac Migrate 2018-09-06T05:14:46.000Z

Original author: sebastian.huber

- **Milestone** changed from %"6.1" to %"5.1"
- **Version** changed from ~"6" to ~"5"

Author: Trac Migrate 2018-09-19T08:52:44.000Z

Original author: sebastian.huber

In [changeset:"68f339b6e3c6dd7372a247f39d9c46842c0549e8/rtems"68f339b6/rtems]:

1 Remove CONFIGURE_HAS_OWN_CONFIGURATION_TABLE

2

3 The RTEMS configuration should be done via explicit configuration

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```
4 options to allow more freedom for implementation changes.
5
6 Update #3489.
7 Update #3490.
```

Author: Trac Migrate 2018-09-19T08:53:20.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”cec2f2c9cf4b71850087af7f9a83e951a3f2c773/rtems-docs”
cec2f2c/rtems-docs]:

```
1 Remove CONFIGURE_HAS_OWN_CONFIGURATION_TABLE
2
3 Close #3489.
4 Close #3490.
```

Author: Amar Takhar 2024-04-25T20:46:28.347Z

changed the description

4.2.1.196 3489 - Obsolete CONFIGURE_HAS_OWN_CONFIGURATION_TABLE

Id	3489
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-08-08T07:13:06.000Z
Updated	2024-04-25T20:46:27.866Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3489
Merges	0

Original author: sebastian.huber

Obsolete the CONFIGURE_HAS_OWN_CONFIGURATION_TABLE configuration option. The RTEMS configuration should be done via explicit configuration options to allow more freedom for implementation changes.

Author: Chris Johns 2018-08-08T07:28:53.000Z

Original author: sebastian.huber

Should this be deprecated for a release before being removed?

Maybe the question should be asked on the user and devel lists if there are users?

Author: Trac Migrate 2018-08-08T07:30:23.000Z

Original author: sebastian.huber

Normally, I would say that we should deprecate it, however, it is broken since RTEMS 4.11 and we didn't get a bug report or complaint. There is also no test case for this configuration option.

Author: Trac Migrate 2018-08-08T07:31:47.000Z

Original author: sebastian.huber

Replying to **Sebastian Huber**:

Normally, I would say that we should deprecate it, however, it is broken since RTEMS 4.11 and we didn't get a bug report or complaint. There is also no test case for this configuration option.

Sorry, I answered to the wrong ticket.

Obsolete == deprecate? Next step is remove in 6.1 (#3490).

Author: Chris Johns 2018-08-08T07:37:57.000Z

Original author: sebastian.huber

Thank you. Anyone interested can now see the reason.

Author: Trac Migrate 2018-08-08T07:41:30.000Z

Original author: sebastian.huber

Sorry, I added some confusion. The reason for this change is in the ticket description. Maybe I should delete this comment:

<https://devel.rtems.org/ticket/3489#comment:3>

Author: Trac Migrate 2018-09-19T08:52:44.000Z

Original author: sebastian.huber

In [changeset:"68f339b6e3c6dd7372a247f39d9c46842c0549e8/rtems" 68f339b6/rtems]:

1 Remove CONFIGURE_HAS_OWN_CONFIGURATION_TABLE

2

3 The RTEMS configuration should be done via explicit configuration

4 options to allow more freedom **for** implementation changes.

5

6 Update #3489.

7 Update #3490.

Author: Trac Migrate 2018-09-19T08:53:20.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”cec2f2c9cf4b71850087af7f9a83e951a3f2c773/rtems-docs”
cec2f2c/rtems-docs]:

1 Remove CONFIGURE_HAS_OWN_CONFIGURATION_TABLE

2

3 Close #3489.

4 Close #3490.

Author: Amar Takhar 2024-04-25T20:46:27.904Z

changed the description

4.2.1.197 3488 - Remove CONFIGURE_HAS_OWN_MOUNT_TABLE

Id	3488
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-08-08T07:10:12.000Z
Updated	2024-04-25T20:46:27.433Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket-type::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3488
Merges	0

Original author: sebastian.huber

RTEMS has the configuration option CONFIGURE_HAS_OWN_MOUNT_TABLE since 1999. This configuration option is broken since RTEMS 4.11. Remove this broken configuration option.

Author: Trac Migrate 2018-09-19T08:52:32.000Z

Original author: sebastian.huber

In [changeset:"5fa0a1f6ea737cc3474e9f0f72ba1957ca5b6c2f/rtems"5fa0a1f6/rtems]:

```
1 config: Remove CONFIGURE_HAS_OWN_MOUNT_TABLE
2
3 RTEMS had the configuration option CONFIGURE_HAS_OWN_MOUNT_TABLE since
4 1999. This configuration option was broken since RTEMS 4.11. Remove
5 this broken configuration option.
6
7 Update #3488.
```

Author: Trac Migrate 2018-09-19T08:53:13.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"11040cf7c3ced6a1928ab43dcf88c1363423cb0d/rtems-docs"11040cf/rtems-docs]:

```
1 c-user: Remove CONFIGURE_HAS_OWN_MOUNT_TABLE
2
3 Close #3488.
```

Author: Amar Takhar 2024-04-25T20:46:27.470Z

changed the description

4.2.1.198 3486 - Use uintptr_t and size_t instead of uint32_t in rtems_partition_create()

Id	3486
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-08-06T08:42:31.000Z
Updated	2024-04-25T20:46:26.995Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3486
Merges	0

Original author: sebastian.huber

Use uintptr_t to specify the length of the partition buffer area instead of uint32_t. This is in line with rtems_region_create(). On 64-bit targets, the length may exceed 4GiB. Use size_t for the

buffer size, since on some targets the single object size is less than the overall address range, e.g. m32c `sizeof(uintptr_t) > sizeof(size_t)`.

Author: Trac Migrate 2018-08-10T05:17:59.000Z

Original author: sebastian.huber

In [changeset:"66cb14205416253df88a412f579956d8d6109794/rtems" 66cb142/rtems]:

```

1 rtems: Parameter types in rtems_partition_create()
2
3 Use uintptr_t to specify the length of the partition buffer area instead
4 of uint32_t. This is in line with rtems_region_create(). On 64-bit
5 targets, the length may exceed 4GiB. Use size_t for the buffer size,
6 since on some targets the single object size is less than the overall
7 address range, e.g. m32c sizeof(uintptr_t) > sizeof(size_t).
8
9 Update #3486.
```

Author: Trac Migrate 2018-08-10T05:18:10.000Z

Original author: sebastian.huber

In [changeset:"b2de4260c5c71e518742731a8cdebe3411937181/rtems" b2de426/rtems]:

```

1 score: Fix _Addresses_Subtract()
2
3 Use architecture-specific integer type for an address difference.
4
5 Update #3486.
```

Author: Trac Migrate 2018-08-10T05:20:18.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"0c4f2be0a80f47f875a508fb0b40aaa867f72cca/rtems-docs" 0c4f2be/rtems-docs]:

```

1 c-user: Adjust integer types in partition create
2
3 Close #3486.
```

Author: Amar Takhar 2024-04-25T20:46:27.035Z

changed the description

4.2.1.199 3482 - Relax the buffer alignment required by `rtems_partition_create()`

Id	3482
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-08-02T12:37:58.000Z
Updated	2024-04-25T20:46:26.551Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3482
Merges	0

Original author: sebastian.huber

Buffer alignment required by `rtems_partition_create()` is too strict since it is checked via `_Addresses_Is_aligned()` which is

```

1 RTEMS_INLINE_ROUTINE bool _Addresses_Is_aligned (
2   const void *address
3 )
4 {
5   #if (CPU_ALIGNMENT == 0)
6     return true;
7   #else
8     return (((uintptr_t)address % CPU_ALIGNMENT) == 0);
9   #endif
10 }
```

The `CPU_ALIGNMENT` must take long double and vector data type alignment requirements into account. For the partition maintenance only pointer alignment is required. The user should ensure that its buffer is suitable for the items it wants to manage. The user should not be burdened to provide buffers with the maximum architecture alignment, e.g. why need a 16 byte aligned buffer if you want to manage items with 4 byte integers only?

Author: Trac Migrate 2018-08-03T11:04:28.000Z

Original author: sebastian.huber

In [changeset:"27bbc0598b4f1a85321fbc47d0f8446e37ea0d12/rtems" 27bbc05/rtems]:

```

1 score: Remove CPU_PARTITION_ALIGNMENT
2
3 Use the CPU_SIZEOF_POINTER alignment instead. The internal alignment
4 requirement is defined by the use of Chain_Node (consisting of two
   (continues on next page)
```

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```

5 pointers) to manage the free chain of partitions.
6
7 It seems that previously the condition
8
9 CPU_PARTITION_ALIGNMENT >= sizeof(Chain_Node)
10
11 was true on all CPU ports. Now, we need an additional check.
12
13 Update #3482.

```

Author: Trac Migrate 2018-08-03T11:04:38.000Z

Original author: sebastian.huber

In [changeset:"83ca9f0a77dff9eee3ca3046430cee7ba7cc323f2/rtems" 83ca9f0a/rtems]:

```

1 rtems: Relax partition buffer area alignment
2
3 The partition buffer area alignment required by rtems_partition_create()
4 was too strict since it was checked via _Addresses_Is_aligned() which
5 uses CPU_ALIGNMENT. The CPU_ALIGNMENT must take long double and vector
6 data type alignment requirements into account. For the partition
7 maintenance only pointer alignment is required (Chain_Node, which
8 consists of two pointers). The user should ensure that its partition
9 buffer area is suitable for the items it wants to manage. The user
10 should not be burdened to provide buffers with the maximum architecture
11 alignment, e.g. why need a 16 byte aligned buffer if you want to manage
12 items with 4 byte integers only?
13
14 Update #3482.

```

Author: Trac Migrate 2018-08-06T06:04:50.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"a0e648869f1d8cfdad115ad004e99cc906ec6a98/rtems-docs" a0e6488/rtems-docs]:

```

1 c-user: Update partition create documentation
2
3 Add an example.
4
5 Close #3482.

```

Author: Amar Takhar 2024-04-25T20:46:26.594Z

changed the description

4.2.1.200 3480 - CONFIGURE_MINIMUM_TASK_STACK_SIZE may affect CONFIG-
URE_INTERRUPT_STACK_SIZE

Id	3480
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-07-30T05:55:31.000Z
Updated	2024-04-25T20:46:26.096Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::config, ticket- type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3480
Merges	0

Original author: sebastian.huber

In case an application defines CONFIGURE_MINIMUM_TASK_STACK_SIZE, then this may
change the CONFIGURE_INTERRUPT_STACK_SIZE as well:

```
1 #ifndef CONFIGURE_INTERRUPT_STACK_SIZE
2 #ifdef BSP_INTERRUPT_STACK_SIZE
3 #define CONFIGURE_INTERRUPT_STACK_SIZE BSP_INTERRUPT_STACK_SIZE
4 #else
5 #define CONFIGURE_INTERRUPT_STACK_SIZE CONFIGURE_MINIMUM_TASK_STACK_SIZE
6 #endif
7 #endif
```

I think this is not what a user expects.

Author: Trac Migrate 2018-07-30T05:57:30.000Z

Original author: sebastian.huber

This behaviour is more or less documented:

[https://docs.rtems.org/branches/master/c-user/configuring_a_system.html#
configure-interrupt-stack-size](https://docs.rtems.org/branches/master/c-user/configuring_a_system.html#configure-interrupt-stack-size)

The documentation doesn't mention that BSP_INTERRUPT_STACK_SIZE is involved
too.

Author: Trac Migrate 2018-07-30T05:58:03.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2018-10-24T05:03:10.000Z

Original author: sebastian.huber

In [changeset:"05a5366469ee4ee7776f70dceea631ea57a63b19/rtems-docs" 05a5366/rtems-docs]:

```

1 c-user: Modify CONFIGURE_INTERRUPT_STACK_SIZE
2
3 Use CPU_STACK_MINIMUM_SIZE instead of CONFIGURE_MINIMUM_TASK_STACK_SIZE
4 to set the default value.
5
6 Clarify documentation.
7
8 Update #3480.
```

Author: Trac Migrate 2018-10-25T04:43:01.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"24b58072ff1ac5a1691374aa139807bf866bf01a/rtems" 24b5807/rtems]:

```

1 config: Modify CONFIGURE_INTERRUPT_STACK_SIZE
2
3 Use CPU_STACK_MINIMUM_SIZE instead of CONFIGURE_MINIMUM_TASK_STACK_SIZE
4 to set the default value.
5
6 Close #3480.
```

Author: Amar Takhar 2024-04-25T20:46:26.135Z

changed the description

4.2.1.201 3459 - Rework initialization and interrupt stack support

Id	3459
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-06-18T06:29:46.000Z
Updated	2024-04-25T20:46:22.215Z
Milestone	5.1
Labels	priority::normal, qualification, resolution::fixed, rtems::score, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3459
Merges	0

Original author: sebastian.huber

We need an initialization stack to run the sequential system initialization before multitasking is enabled. The system initialization is done with interrupts disabled.

We need an interrupt stack for interrupt processing. This helps to avoid a per thread stack overhead for interrupt processing. The size for interrupt stack is application dependent, e.g. maximum interrupt nest level, stack demands of interrupt handlers.

The initialization and interrupt stacks are needed for each processor in the system.

Since interrupts are disabled during the sequential system initialization we can re-use the interrupt stack for the initialization stack. This is important for low end targets, with very limited RAM sizes. We need the initialization stack before a proper C run-time environment is set up e.g. we cannot assume that the access to global data is available. The stack memory area begin and size should be available via global symbols (named addresses). On some BSPs, e.g. ARM, this is done via the linker command file.

It should be possible to set the stack size via the `CONFIGURE_INTERRUPT_STACK_SIZE` configuration option and not via some magic stuff in linker command files.

Many BSPs set the BSS area to zero during system initialization. Thus, the initialization stack must not be contained in the BSS area.

The interrupt stack implementation is currently controlled by the following CPU port defines:

```

1 /**
2  * Does RTEMS manage a dedicated interrupt stack in software?
3  *
4  * If TRUE, then a stack is allocated in @ref _ISR_Handler_initialization.
5  * If FALSE, nothing is done.
6  *
7  * If the CPU supports a dedicated interrupt stack in hardware,
8  * then it is generally the responsibility of the BSP to allocate it
9  * and set it up.
10 *
11 * If the CPU does not support a dedicated interrupt stack, then
12 * the porter has two options: (1) execute interrupts on the

```

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```

13 * stack of the interrupted task, and (2) have RTEMS manage a dedicated
14 * interrupt stack.
15 *
16 * If this is TRUE, @ref CPU_ALLOCATE_INTERRUPT_STACK should also be TRUE.
17 *
18 * Only one of @ref CPU_HAS_SOFTWARE_INTERRUPT_STACK and
19 * @ref CPU_HAS_HARDWARE_INTERRUPT_STACK should be set to TRUE. It is
20 * possible that both are FALSE for a particular CPU. Although it
21 * is unclear what that would imply about the interrupt processing
22 * procedure on that CPU.
23 *
24 * Port Specific Information:
25 *
26 * XXX document implementation including references if appropriate
27 */
28 #define CPU_HAS_SOFTWARE_INTERRUPT_STACK FALSE
29
30 /**
31 * Does this CPU have hardware support for a dedicated interrupt stack?
32 *
33 * If TRUE, then it must be installed during initialization.
34 * If FALSE, then no installation is performed.
35 *
36 * If this is TRUE, @ref CPU_ALLOCATE_INTERRUPT_STACK should also be TRUE.
37 *
38 * Only one of @ref CPU_HAS_SOFTWARE_INTERRUPT_STACK and
39 * @ref CPU_HAS_HARDWARE_INTERRUPT_STACK should be set to TRUE. It is
40 * possible that both are FALSE for a particular CPU. Although it
41 * is unclear what that would imply about the interrupt processing
42 * procedure on that CPU.
43 *
44 * Port Specific Information:
45 *
46 * XXX document implementation including references if appropriate
47 */
48 #define CPU_HAS_HARDWARE_INTERRUPT_STACK TRUE
49
50 /**
51 * Does RTEMS allocate a dedicated interrupt stack in the Interrupt Manager?
52 *
53 * If TRUE, then the memory is allocated during initialization.
54 * If FALSE, then the memory is allocated during initialization.
55 *
56 * This should be TRUE is CPU_HAS_SOFTWARE_INTERRUPT_STACK is TRUE.
57 *
58 * Port Specific Information:
59 *
60 * XXX document implementation including references if appropriate
61 */

```

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```
62 #define CPU_ALLOCATE_INTERRUPT_STACK TRUE
```

Do the following steps to unify and simplify the initialization and interrupt stack support. 1. Add RTEMS_DECLARE_GLOBAL_SYMBOL() and RTEMS_DEFINE_GLOBAL_SYMBOL() macros to basedefs.h, to allow a global symbol definition via C code, e.g. in confdefs.h, to make the interrupt stack size available to the low level initialization code.

2. Add a special input section “.rtemsstack” to the linker command files to allow a placement of the interrupt stacks. The BSPs can provide the optimal memory location for this section, e.g. on-chip RAM, tightly-coupled memory.

This makes the CPU_HAS_SOFTWARE_INTERRUPT_STACK and CPU_HAS_HARDWARE_INTERRUPT_STACK CPU port defines superfluous, since the low level initialization code has all information available via global symbols.

This makes the CPU_ALLOCATE_INTERRUPT_STACK CPU port define superfluous, since the interrupt stacks are allocated by confdefs.h for all architectures. There is no need for BSP-specific linker command file magic.

The optional _CPU_Interrupt_stack_setup() is still useful to customize the registration of the interrupt stack area in the per-CPU information.

Author: Trac Migrate 2018-06-19T13:27:08.000Z

Original author: sebastian.huber

In [changeset:”b0c3ba2f843543ea0dfe845184451708d367f561/rtems”
b0c3ba2f/rtems]:

```
1 bsp: Remove superfluous bsp_processor_count
2
3 This is unused copy and paste stuff.
4
5 Update #3459.
```

Author: Trac Migrate 2018-06-20T07:34:03.000Z

Original author: sebastian.huber

Just for reference, the reuse of the initialization stack for the interrupt stack is only possible because boot_card() is a no-return function. This was not the case in RTEMS versions before 4.11.

Author: Trac Migrate 2018-06-22T04:30:39.000Z

Original author: sebastian.huber

In [changeset:”cc3edaa92d1325b8ec1fc34148bf356df6bb4790/rtems”
cc3edaa/rtems]:

```

1 config: SMP only CONFIGURE_MAXIMUM_PROCESSORS
2
3 Do not set the CONFIGURE_MAXIMUM_PROCESSORS in uni-processor default
4 configuration, since this may lead to an oversize workspace.
5
6 Update #3459.

```

Author: Trac Migrate 2018-06-22T04:30:49.000Z

Original author: sebastian.huber

In [\[changeset:"8ff5916c2f0b9cc8d62ca99d1422ad7be4cccf27/rtems"8ff5916c/rtems\]](#):

```

1 stackchk: Remove dead code
2
3 Update #3459.

```

Author: Trac Migrate 2018-06-22T04:31:00.000Z

Original author: sebastian.huber

In [\[changeset:"1cb2e7483c3d468ebccfb053168b30c90eb5e2fb/rtems"1cb2e748/rtems\]](#):

```

1 stackchk: Refactor Stack_check_Dump_threads_usage
2
3 Update #3459.

```

Author: Trac Migrate 2018-06-22T04:31:10.000Z

Original author: sebastian.huber

In [\[changeset:"c47ad8edc6cd7a02e1cad3f185e60f62a182f686/rtems"c47ad8e/rtems\]](#):

```

1 stackchk: Add SMP support
2
3 Check the interrupt stacks of all processors. Set up the interrupt
4 stack of the current processor for high water testing in the thread
5 begin extension. This must be done after multi-threading started, since
6 the initialization stacks may reuse the interrupt stacks. Disable
7 thread dispatching in SMP configurations to prevent thread migration.
8 Writing to the interrupt stack is only safe if done from the
9 corresponding processor in thread context.
10
11 Update #3459.

```

Author: Trac Migrate 2018-06-22T04:31:21.000Z

Original author: sebastian.huber

In [changeset:"fe46647ef5671095d17734792a1dcc675d54d34c/rtems"fe46647e/rtems]:

```
1 score: Macros to declare and define global symbols
2
3 Add RTEMS_DEFINE_GLOBAL_SYMBOL() and add RTEMS_DECLARE_GLOBAL_SYMBOL().
4
5 Update #3459.
```

Author: Trac Migrate 2018-06-29T09:53:49.000Z

Original author: sebastian.huber

In [changeset:"c8df844cf3bddde0221614843c97cb6c950cdba9/rtems"c8df844/rtems]:

```
1 score: Add CPU_INTERRUPT_STACK_ALIGNMENT
2
3 Add CPU port define for the interrupt stack alignment. The alignment
4 should take the stack ABI and the cache line size into account.
5
6 Update #3459.
```

Author: Trac Migrate 2018-06-29T09:54:00.000Z

Original author: sebastian.huber

In [changeset:"715d6167e07a46f5bc37f42993c209450484bbe8/rtems"715d616/rtems]:

```
1 bsps: Support .rtemsstack.* linker input sections
2
3 Use a dedicated memory region or place it between the BSS and workspace.
4
5 Update #3459.
```

Author: Trac Migrate 2018-06-29T09:54:14.000Z

Original author: sebastian.huber

In [changeset:"511dc4b2bee78ce0714e83838644429a29d325b1/rtems"511dc4b/rtems]:

```
1 Rework initialization and interrupt stack support
2
3 Statically initialize the interrupt stack area
4 (_Configuration_interrupt_stack_area_begin,
5 _Configuration_interrupt_stack_area_end, and
6 _Configuration_interrupt_stack_size) via <rtems/confdefs.h>. Place the
7 interrupt stack area in a special section ".rtemsstack.interrupt". Let
8 BSPs define the optimal placement of this section in their linker
9 command files (e.g. in a fast on-chip memory).
10
11 This change makes makes the CPU_HAS_SOFTWARE_INTERRUPT_STACK and
12 CPU_HAS_HARDWARE_INTERRUPT_STACK CPU port defines superfluous, since the
13 low level initialization code has all information available via global
14 symbols.
15
16 This change makes the CPU_ALLOCATE_INTERRUPT_STACK CPU port define
17 superfluous, since the interrupt stacks are allocated by confdefs.h for
18 all architectures. There is no need for BSP-specific linker command
19 file magic (except the section placement), see previous ARM linker
20 command file as a bad example.
21
22 Remove _CPU_Install_interrupt_stack(). Initialize the hardware
23 interrupt stack in _CPU_Initialize() if necessary (e.g.
24 m68k_install_interrupt_stack()).
25
26 The optional _CPU_interrupt_stack_setup() is still useful to customize
27 the registration of the interrupt stack area in the per-CPU information.
28
29 The initialization stack can reuse the interrupt stack, since
30
31 * interrupts are disabled during the sequential system initialization,
32 and
33
34 * the boot_card() function does not return.
35
36 This stack reuse saves memory.
37
38 Changes per architecture:
39
40 arm:
41
42 * Mostly replace the linker symbol based configuration of stacks with
43 the standard <rtems/confdefs.h> configuration via
44 CONFIGURE_INTERRUPT_STACK_SIZE. The size of the FIQ, ABT and UND
45 mode stack is still defined via linker symbols. These modes are
46 rarely used in applications and the default values provided by the
47 BSP should be sufficient in most cases.
48
49 * Remove the bsp_processor_count linker symbol hack used for the SMP
50 support. This is possible since the interrupt stack area is now
```

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```

51 allocated by the linker and not allocated from the heap. This makes
52 some configure.ac stuff obsolete. Remove the now superfluous BSP
53 variants altcycv_devkit_smp and realview_pbx_a9_qemu_smp.
54
55 bfin:
56
57 * Remove unused magic linker command file allocation of initialization
58 stack. Maybe a previous linker command file copy and paste problem?
59 In the start.S the initialization stack is set to a hard coded value.
60
61 lm32, m32c, mips, nios2, riscv, sh, v850:
62
63 * Remove magic linker command file allocation of initialization stack.
64 Reuse interrupt stack for initialization stack.
65
66 m68k:
67
68 * Remove magic linker command file allocation of initialization stack.
69 Reuse interrupt stack for initialization stack.
70
71 powerpc:
72
73 * Remove magic linker command file allocation of initialization stack.
74 Reuse interrupt stack for initialization stack.
75
76 * Used dedicated memory region (REGION RTEMSSTACK) for the interrupt
77 stack on BSPs using the shared linkcmds.base (replacement for
78 REGION_RWEXTRA).
79
80 sparc:
81
82 * Remove the hard coded initialization stack. Use the interrupt stack
83 for the initialization stack on the boot processor. This saves
84 16KiB of RAM.
85
86 Update #3459.

```

Author: Trac Migrate 2018-07-03T05:07:40.000Z

Original author: sebastian.huber

In [changeset:"156b2273a491eba0b0d605fa774d4d81d2ae2def/rtems-tools"
156b227/rtems-tools]:

```

1 tester: Remove obsolete BSP variants
2
3 Update #3459.

```

Author: Trac Migrate 2018-07-03T05:12:58.000Z

Original author: sebastian.huber

In [changeset:"25f4db09c85a52fb1640a29f9bdc2de8c2768988/rtems-source-builder" 25f4db0/rtems-source-builder]:

```
1 5: Update tools to not build obsolete BSP variants
2
3 Update #3459.
```

Author: Trac Migrate 2018-07-19T05:38:20.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"efd581f875a22276add4b85c56282ce7d9a94881/rtems-docs" efd581f/rtems-docs]:

```
1 cpu-supplement: Update interrupt stack paragraph
2
3 Close #3459.
```

Author: Trac Migrate 2018-07-31T05:13:55.000Z

Original author: sebastian.huber

In [changeset:"334e1d22f54d504cc5cf8881af4192e83bfdc863/rtems" 334e1d2/rtems]:

```
1 confdefs: Fix uniprocessor configuration
2
3 Introduce a new internal define _CONFIGURE_MAXIMUM_PROCESSORS and ensure
4 that it is _CONFIGURE_MAXIMUM_PROCESSORS > 1 only in SMP configurations.
5
6 This avoids to allocate data structures for non-existing additional
7 processors in uniprocessor configuration.
8
9 Update #3459.
```

Author: Trac Migrate 2018-08-03T11:04:49.000Z

Original author: sebastian.huber

In [changeset:"42f9963d1f5c8f510c2efb334ce558df2cdc38b3/rtems" 42f9963d/rtems]:

```

1 score: Remove superfluous semicolon
2
3 This avoids warnings like this:
4
5 warning: ISO C does not allow extra ';' outside of a function [-
6 ↪Wpedantic]
7 RTEMS_DECLARE_GLOBAL_SYMBOL( abc );
8 ^
9 Update #3459.
```

Author: Trac Migrate 2018-09-03T05:03:42.000Z

Original author: sebastian.huber

In [changeset:"fad3f79b883100394a5a7e51e93f95eaaafd50f8/rtems" fad3f79b/rtems]:

```

1 bsps: BSP_INTERRUPT_STACK_AT_WORK_AREA_BEGIN
2
3 Remove the BSP_INTERRUPT_STACK_AT_WORK_AREA_BEGIN hack. The interrupt
4 stacks are now allocated by the linker.
5
6 Update #3459.
```

Author: Trac Migrate 2018-09-06T05:05:31.000Z

Original author: sebastian.huber

In [changeset:"54d87f2e52d07207f6f75d44f18c34ecd4dbd61b/rtems" 54d87f2/rtems]:

```

1 bsps/powerpc: Simplify ppc_exc_initialize()
2
3 Remove parameters from ppc_exc_initialize() since all BSPs passed the
4 same values.
5
6 Update #3459.
```

Author: Trac Migrate 2018-09-21T06:08:11.000Z

Original author: sebastian.huber

In [changeset:"56e61e24bd8cada5b25f6d4fdf433eed84f25204/rtems" 56e61e24/rtems]:

```

1 Remove INTERNAL_ERROR_INTERRUPT_STACK_TOO_SMALL
2
```

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```

3 The configured interrupt stack size (CONFIGURE_INTERRUPT_STACK_SIZE) is
4 checked against the minimum task stack size. The minimum task stack
5 size is also a configuration option
6 (CONFIGURE_MINIMUM_TASK_STACK_SIZE). So, this check does not really
7 help in case of configuration errors. In addition, the interrupt stack
8 is also re-used as the initialization stack in most BSPs. It is
9 probably better to use a stack checker to detect problems.
10
11 Update #3459.

```

Author: Trac Migrate 2018-09-21T06:08:34.000Z

Original author: sebastian.huber

In [changeset:"4221d932b43094f3aaf4a8dca1aa6bd4db13df4e/rtems" 4221d93/rtems]:

```

1 stackchk: Improve support for interrupt stacks
2
3 Prepare the interrupt stack which may be used by the boot processor as
4 initialization stack with the stack sanity pattern. Check the interrupt
5 stack of the current processor in the thread begin and switch extension.
6
7 Update #3459.

```

Author: Trac Migrate 2018-09-24T07:16:51.000Z

Original author: sebastian.huber

In [changeset:"7d1acc03f1d4ac13a5ab42727f61810eda052a1c/rtems" 7d1acc03/rtems]:

```

1 stackchk: Fix interrupt stack preparation
2
3 We have to prepare the interrupt stack of each processor.
4
5 Update #3459.

```

Author: Trac Migrate 2018-11-08T07:11:03.000Z

Original author: sebastian.huber

In [changeset:"ff081aee72436131cf11e3a35f96a6405c3a4d78/rtems" ff081aee/rtems]:

```

1 score: Rename interrupt stack symbols
2

```

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```

3 Rename
4
5 * _Configuration_interrupt_stack_area_begin in _ISR_stack_area_begin,
6 * _Configuration_interrupt_stack_area_end in _ISR_stack_area_end, and
7 * _Configuration_interrupt_stack_size in _ISR_stack_size.
8
9 Move definitions to <rtems/score/isr.h>. The new names are considerable
10 shorter and in the right namespace.
11
12 Update #3459.

```

Author: Trac Migrate 2018-11-14T07:00:19.000Z

Original author: sebastian.huber

In [changeset:"5f32da0b6960454e5881db6244646a253895dbbc/rtems"5f32da0/rtems]:

```

1 bsp/or1k: Use interrupt stack for init stack
2
3 Update #3459.

```

Author: Trac Migrate 2018-11-14T07:48:05.000Z

Original author: sebastian.huber

In [changeset:"a13b89bb173728aa66c258ba17f9a8a36bd0aea2/rtems"a13b89b/rtems]:

```

1 bsp/i386: Use interrupt stack for init stack
2
3 Update #3459.

```

Author: Trac Migrate 2018-11-19T06:20:40.000Z

Original author: sebastian.huber

In [changeset:"cc61d5cdb2938e24ce027dc725b9df7b67f86e84/rtems"cc61d5c/rtems]:

```

1 bsp/m68k: Use interrupt stack for init stack
2
3 Update #3459.

```

Author: Trac Migrate 2018-11-19T06:20:49.000Z

Original author: sebastian.huber

In [changeset:"84e59b7c04e47c3ec7aa95f53509fd812eee725e/rtems" 84e59b7c/rtems]:

```
1 bsps/powerpc: Use interrupt stack for init stack
2
3 Move start.o to separate file.
4
5 Update #3459.
```

Author: Trac Migrate 2018-11-19T06:20:57.000Z

Original author: sebastian.huber

In [changeset:"508f319ef7f488e652984973a7d948907d9bdba6/rtems" 508f319e/rtems]:

```
1 bsps/mips: Use interrupt stack for init stack
2
3 Update #3459.
```

Author: Trac Migrate 2018-11-19T06:21:05.000Z

Original author: sebastian.huber

In [changeset:"a74ee41742d3b118dd6df95ee9cba60cbacb6ddf/rtems" a74ee417/rtems]:

```
1 bsps/bfin: Use interrupt stack for init stack
2
3 Update #3459.
```

Author: Trac Migrate 2018-11-19T06:21:13.000Z

Original author: sebastian.huber

In [changeset:"0ce6bf3ff5f2da5e4fe7fa6434d7b4c2a9562929/rtems" 0ce6bf3/rtems]:

```
1 bsps/epiphany: Use interrupt stack for init stack
2
3 Update #3459.
```

Author: Trac Migrate 2018-11-19T06:21:22.000Z

Original author: sebastian.huber

In [changeset:"5f5bbd10fbf8dc48e107c1b9a3fe548b13f43390/rtems" 5f5bbd1/rtems]:

```
1 bsp/x86_64: Use interrupt stack for init stack
2
3 Update #3459.
```

Author: Trac Migrate 2018-11-19T06:21:30.000Z

Original author: sebastian.huber

In [changeset:"098900186c8ed04fc9d58121bd403e04699a1c2a/rtems"
0989001/rtems]:

```
1 bsp/sparc64: Use interrupt stack for init stack
2
3 Update #3459.
```

Author: Trac Migrate 2018-11-19T06:21:37.000Z

Original author: sebastian.huber

In [changeset:"38f81bfc210590c8175b9d2dbc4d38f400df51cb/rtems"
38f81bfc/rtems]:

```
1 bsp/nios2: Use interrupt stack for init stack
2
3 Update #3459.
```

Author: Trac Migrate 2018-11-19T06:21:45.000Z

Original author: sebastian.huber

In [changeset:"0a6a4ddba8d12e91e12df12070f18ea714826990/rtems"
0a6a4ddb/rtems]:

```
1 bsp/moxie: Use interrupt stack for init stack
2
3 Update #3459.
```

Author: Trac Migrate 2019-01-21T08:18:34.000Z

Original author: sebastian.huber

In [changeset:"95c19211d13e04cbef0b13e826677a1dbf570563/rtems"
95c1921/rtems]:

```
1 bsp/arm: Remove unused bsp_stack_irq_size
2
3 Update #3459.
```

Author: Trac Migrate 2019-03-15T06:34:26.000Z

Original author: sebastian.huber

In [changeset:"9e4895805af7023c23ba0cedf8f48934e3be5acc/rtems" 9e48958/rtems]:

```
1 bsp/powerpc: Initialize stack earlier
2
3 The __eabi() call may use the stack.
4
5 Update #3459.
```

Author: Amar Takhar 2024-04-25T20:46:22.276Z

changed the description

4.2.1.202 3458 - rtems-test should not use the env PATH to find covoar

Id	3458
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2018-06-17T23:09:23.000Z
Updated	2024-04-25T20:46:21.390Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, scan::coverage, tickettype::defect, tool, tool::test, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3458
Merges	0

The `rtems-test` command should know where `covoar` is when invoking it. It cannot use the environment's path. The path can contain invalid or outdated versions with subtle issues that could be hard to find.

There should be no need to run `install` to use and test `rtems-test` with coverage.

The `rtems-test` python code for running the tests knows where it is and adjusts. For example using an absolute path to `rtems-tests` in a build directly results in it being able to find the development tree `rtemstoolkit` and configuration data. The command needs to be taught to find the development version of `covoar`.

Note, currently `covoar` needs external tools and this is currently using the environment's path however there is work underway to remove this dependence so there case does not need to be handled.

Author: Chris Johns 2018-06-18T05:33:29.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

Author: Trac Migrate 2018-06-19T03:45:15.000Z

- **Owner** set to Chris Johns <chrisj@rtems.org>

In [changeset:”e341a65347ceb887cc5d5e114f252c366a4b8488/rtems-tools”
e341a65/rtems-tools]:

```
1 tester: Make the path to covoar absolute to ignore the env PATH.  
2  
3 Using the environment's path to find covoar allow invalid versions  
4 to be used which may vary in subtle ways. Find and use the covoar  
5 that is build with the version of 'rtems-test'.  
6  
7 This patch means you do not need to install the tools before  
8 running improving the development experience.  
9  
10 Closes #3458
```

Author: Amar Takhar 2024-04-25T20:46:21.427Z

changed the description

4.2.1.203 3436 - Remove clock driver Clock_driver_support_shutdown_hardware() hook

Id	3436
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-05-25T12:32:59.000Z
Updated	2024-04-25T20:46:18.452Z
Milestone	5.1
Labels	device, priority::normal, qualification, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3436
Merges	0

Original author: sebastian.huber

Most applications use a clock driver and most BSPs use the clock driver framework provided by clockimpl.h. This framework offers a Clock_driver_support_shutdown_hardware() hook which is used like this.

```
1 #ifdef Clock_driver_support_shutdown_hardware  
2 /**  
3 * @brief Clock_exit  
  
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```

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```

4 *
5 * This routine allows the clock driver to exit by masking the interrupt and
6 * disabling the clock's counter.
7 */
8 void Clock_exit( void )
9 {
10 Clock_driver_support_shutdown_hardware();
11
12 /* do not restore old vector */
13 }
14 #endif
15 ...
16 #ifdef Clock_driver_support_shutdown_hardware
17 atexit( Clock_exit );
18 #endif

```

The aim is to stop clock tick interrupts at some late point in the exit() procedure.

The use of atexit() pulls in malloc() which pulls in errno. It is incompatible with the intention of the CONFIGURE_DISABLE_NEWLIB_REENTRANCY configuration option.

The exit() function must be called from thread context, so accompanied clock tick interrupts should cause no harm. On the contrary, someone may assume a normal operating system operation, e.g. working timeouts.

Remove the superfluous Clock_driver_support_shutdown_hardware() hook.

Author: Trac Migrate 2018-06-29T08:16:31.000Z

Original author: sebastian.huber

In [changeset:"c765aa035786fca27ff42e1b1e5028f81437d0aa/rtems-docs" c765aa0/rtems-docs]:

```

1 bsp-howto: Mention clock driver hook removal
2
3 Update #3436.

```

Author: Trac Migrate 2018-06-29T09:53:27.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"7ee59313932398aa2781503d25154c56301b9b73/rtems" 7ee59313/rtems]:

```

1 Remove Clock_driver_support_shutdown_hardware()
2

```

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```
3 The aim of this clock driver hook was to stop clock tick interrupts at
4 some late point in the exit() procedure.
5
6 The use of atexit() pulls in malloc() which pulls in errno. It is
7 incompatible with the intention of the
8 CONFIGURE_DISABLE_NEWLIB_REENTRANCY configuration option.
9
10 The exit() function must be called from thread context, so accompanied
11 clock tick interrupts should cause no harm. On the contrary, someone
12 may assume a normal operating system operation, e.g. working timeouts.
13
14 Remove the Clock_driver_support_shutdown_hardware() clock driver hook.
15
16 Close #3436.
```

Author: Trac Migrate 2019-12-11T08:06:32.000Z

Original author: sebastian.huber

In [changeset:"a6b2080e1c1e756403e80eb0bb658af6a1a88a89/rtems" a6b2080/rtems]:

```
1 clock: Remove Clock_exit() from API
2
3 This function is no longer supported by the standard clock driver
4 implementation (clockimpl.h).
5
6 Update #3436.
```

Author: Amar Takhar 2024-04-25T20:46:18.497Z

changed the description

4.2.1.204 3228 - aarch64 missing from 5/rtems-all build set

Id	3228
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2017-11-11T01:51:48.000Z
Updated	2024-04-25T20:45:58.390Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3228
Merges	0

This arch needs to be added to the all build set.

Author: Joel Sherrill2017-11-12T16:04:24.000Z

Fixed by commit <https://git.rtems.org/rtems-source-builder/commit/?id=d1e6dfcb1e14d2f9d42c79e1137ddca6d8fc67d5>

Author: Joel Sherrill2017-11-12T16:04:37.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

Author: Amar Takhar2024-04-25T20:45:58.426Z

changed the description

4.2.1.205 3210 - Improve the RSB build email message

Id	3210
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-10-27T06:20:10.000Z
Updated	2024-04-25T20:45:55.400Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::enhancement, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3210
Merges	0

The message needs more detail to provide a suitable archive.

Author: Trac Migrate2017-10-27T06:27:12.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”0f97375242b9e50753496a9c14f1c3bfcd226c28/rtems-source-builder” 0f97375/rtems-source-builder]:

```
1 sb: Provide a more detail email message.
2
3 Close #3210.
```

Author: Trac Migrate2017-10-27T06:34:55.000Z

In [changeset:"70e3e5e115ce586c61840fbbfd00e30ad57aad0d/rtems-source-builder" 70e3e5e/rtems-source-builder]:

```
1 sb: Set the to email address to build@rtems.org.
2
3 - Fix a minor bug in the to addr processing.
4
5 Update #3210
```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:55.436Z

changed the description

4.2.1.206 3172 - i386 PC BSP does not reset when bsp_reset is called.

Id	3172
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-10-09T02:56:01.000Z
Updated	2024-04-25T20:45:53.350Z
Milestone	5.1
Labels	arch:i386, bsp, priority::high, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3172
Merges	0

Removal of the Edison support removed the standard PC reset using the keyboard controller rather than the specific Edison support.

Author: Joel Sherrill 2017-10-09T03:14:53.000Z

I noticed the wrong code was removed Thursday and have a patch ready to push.

Author: Trac Migrate 2017-10-09T03:26:42.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:"19cbd1943da39c0bfc9236667edcfa717229bc8a/rtems" 19cbd194/rtems]:

```
1 pc386/.../bspreset.c: Readd proper reset code.
2
3 The removal of the Edison code removed the wrong part of the
4 conditional.
5
6 Closes #3172.
```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:53.389Z

changed the description

4.2.1.207 3171 - RSB GCC does not build on High Sierra and APFS

Id	3171
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-10-07T20:34:21.000Z
Updated	2024-04-25T20:45:52.918Z
Milestone	5.1
Labels	priority::high, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3171
Merges	0

The issue has been reported upstream as https://gcc.gnu.org/bugzilla/show_bug.cgi?id=81797

- [darwin-apfs-gcc-libstdc++-bug-81797-redi-2.diff](#)
- [darwin-apfs-gcc-libstdc++-bug-81797.diff](#)
- [darwin-libstdc++-noperallel-fix.patch](#)

Author: Chris Johns 2017-10-11T12:31:33.000Z

- **Attachment** [darwin-apfs-gcc-libstdc++-bug-81797.diff](#) added

Patch to fix libstdc++-v3 includes on MacOS Sierra High and APFS.

Author: Chris Johns 2017-10-11T23:13:11.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *accepted*

Author: Chris Johns 2017-10-27T03:04:12.000Z

- **Attachment** [darwin-apfs-gcc-libstdc++-bug-81797-redi-2.diff](#) added

Generated version of Jonathan Wakely's patch from the GCC ticket comment 42 tracking this issue.

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Chris Johns 2018-10-07T03:16:48.000Z

- **Attachment** [darwin-libstdc++-noparallel-fix.patch](#) added

Work around the APFS issue in building libstdc++ by changing \$(LN) to be cp.

Author: Trac Migrate 2018-10-12T17:00:55.000Z

In [changeset:"7bb268ba19d2c21386bc76aafa6d50cfdba9fa52/rtems-source-builder" 7bb268b/rtems-source-builder]:

```
1 darwin: Work around symlink issues on Darwin with APFS building_
  ↪ libstd++.
2
3 See https://gcc.gnu.org/bugzilla/show_bug.cgi?id=81797
4
5 Updates #3171
```

Author: Chris Johns 2018-10-14T00:37:39.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

Tested on Mojave.

Author: Amar Takhar 2024-04-25T20:45:52.962Z

changed the description

4.2.1.208 3170 - Use BSP_output_char via RTEMS printer or simple console driver for test output by default

Id	3170
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-10-06T04:02:37.000Z
Updated	2024-04-25T20:45:52.459Z
Milestone	5.1
Labels	priority::high, resolution::fixed, rtems::testing, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3170
Merges	0

Test runs with a interrupt driven console driver result in unreliable test outcomes.

Problem was noticed with test runs on Microzed, for example libtest/block08:

The test prints:

```
1 ** END OF TEST BLOCK 8 ***
```

The rtems-test command marks the result as a failure. There is a single * missing from the start of the line. I attach the full test trace.

- [microzed-block8.txt](#)

Author: Chris Johns 2017-10-06T04:03:09.000Z

- **Attachment** [microzed-block8.txt](#) added

RTEMS Tester test log for block8 on a Microzed.

Author: Chris Johns 2017-10-06T21:48:30.000Z

- **Summary** changed from *Microzed libtest/block8 fails to print end of test correctly.* to *Microzed libtest/block08 fails to print end of test correctly.*

I changed all printk calls in the block08 test to printf and the output from the test is now correct and rtems-test passes the test.

There must be something wrong with the Zync UART drivers. I have escalated this to critical because I would like the Zynq to be a tier 1 device with the Beaglebone Black so we have Cortex-A9 and Cortex-A8 devices in tier 1.

There are 233 printk references in the testsuite. I am sure some are needed however block08's printk calls were not needed so I am now wondering how many are?

Author: Trac Migrate 2017-10-09T07:19:29.000Z

Does the following patch alter the output:

```

1 diff --git a/c/src/lib/libbsp/arm/xilinx-zynq/console/zynq-uart.c b/c/
  ↪src/lib/libbsp/arm/xilinx-zynq/console/zynq-uart.c
2 index fa91f3f46e..3c42be428f 100644
3 --- a/c/src/lib/libbsp/arm/xilinx-zynq/console/zynq-uart.c
4 +++ b/c/src/lib/libbsp/arm/xilinx-zynq/console/zynq-uart.c
5 @@ -226,12 +226,18 @@ void zynq_uart_write_polled(
6 {
7     zynq_uart_context *ctx = (zynq_uart_context *) base;
8     volatile zynq_uart *regs = ctx->regs;
9     + rtems_interrupt_level level;
10    +
11    + rtems_interrupt_local_disable(level);
12
13    while ((regs->channel_sts & ZYNQ_UART_CHANNEL_STS_TFUL) != 0) {
14        /* Wait */
15        + rtems_interrupt_local_enable(level);
16        + rtems_interrupt_local_disable(level);
17    }
18
19    regs->tx_rx_fifo = ZYNQ_UART_TX_RX_FIFO_FIFO(c);
20    + rtems_interrupt_local_enable(level);
21    }
22
23    static void zynq_uart_write_support(

```

Author: Chris Johns 2017-10-11T23:11:59.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Chris Johns 2017-10-12T17:19:10.000Z

Replying to [Sebastian Huber](#):

Does the following patch alter the output:

No it did not make a difference.

See <https://lists.rtems.org/pipermail/build/2017-October/000007.html>. Search for Result: invalid Time: 0:00:23.859291 dumpbuf01.exe.img. The rtems_print_buffer() call uses rtems_putc and that uses printk or the putc equivalent.

Reviewing the failures there looks to be something wrong in the BSP. There are failures which should not or do not fail on other BSP. I cannot debug this remotely so it may have to wait. Are you able to run the tests on a Zynq?

Author: Trac Migrate 2017-10-13T06:48:49.000Z

Do you use a polled or interrupt driven console driver? The tests need a polled console driver.

Author: Chris Johns 2017-10-13T12:51:02.000Z

Replying to [Sebastian Huber](#):

Do you use a polled or interrupt driven console driver?

I use the default configuration:

```
1 configure --target=arm-rtems4.12 --prefix=/opt/work/chris/
   ↪ rtems/kernel/4.12 --disable-networking --enable-
   ↪ rtemsbsp=xilinx_zynq_zedboard --enable-maintainer-mode --
   ↪ enable-tests
```

I have always assumed the default configuration for **any** BSP lets the tests run. Is this not the case?

The tests need a polled console driver.

What do I do to make this happen?

Author: Trac Migrate 2017-10-13T12:54:16.000Z

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

Do you use a polled or interrupt driven console driver?

I use the default configuration: {{{ configure --target=arm-rtems4.12
--prefix=/opt/work/chris/rtems/kernel/4.12 --disable-networking
--enable-rtemsbsp=xilinx_zynq_zedboard --enable-maintainer-mode
--enable-tests }}} I have always assumed the default configuration for **any** BSP lets the tests run. Is this not the case?

No, this is not the case for the real hardware BSPs which usually use an interrupt driven console driver.

The tests need a polled console driver.

What do I do to make this happen?

This is BSP-specific. Try, to add
"ZYNQ_CONSOLE_USE_INTERRUPTS=" to the config-
ure command line.

Author: Chris Johns 2017-10-13T13:21:40.000Z

Replying to [Sebastian Huber](#):

Replying to [Chris Johns](#):

I have always assumed the default configuration for **any** BSP lets the tests run. Is this not the case?

No, this is not the case for the real hardware BSPs which usually use an interrupt driven console driver.

This seems like a new requirement. Has something changed in RTEMS to cause this? I do not remember having this problem with previous versions.

This is confusing because each BSP is different and has different options. The tests should manage this internally at runtime and not be dependent on low level BSP specific driver implementations. We have polled console driver support in BSPs, why not get the tests to use it?

Is this documented anywhere? FWIW I see adding some now as hiding the real issue.

What do I do to make this happen?

This is BSP-specific. Try, to add "ZYNQ_CONSOLE_USE_INTERRUPTS=" to the configure command line.

<sigh> I will consider the blocker status for this issue and discuss it with Joel today. He told me yesterday no tests should be using printk unless configured to do so, ie small memory targets. There seems to be some confusion.

Author: Trac Migrate 2017-10-13T13:28:24.000Z

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

Replying to [Chris Johns](#):

I have always assumed the default configuration for **any** BSP lets the tests run. Is this not the case?

No, this is not the case for the real hardware BSPs which usually use an interrupt driven console driver.

This seems like a new requirement. Has something changed in RTEMS to cause this? I do not remember having this problem with previous versions.

At least since I use RTEMS, this was the case. I asked questions about this on the mailing list.

This is confusing because each BSP is different and has different options. The tests should manage this internally at runtime and not be dependent on low level BSP specific driver implementations. We have polled console driver support in BSPs, why not get the tests to use it? Is this documented anywhere? FWIW I see adding some now as hiding the real issue.

The console drivers are a real mess. We have no link-time configuration options/mechanism for drivers. Its not so easy.

Changing the tests so that they work with an interrupt driven console driver is hard. I don't think it makes sense. What we need is a non-blocking test output support.

What do I do to make this happen?

This is BSP-specific. Try, to add "ZYNQ_CONSOLE_USE_INTERRUPTS=" to the configure command line.

<sigh> I will consider the blocker status for this issue and discuss it with Joel today. He told me yesterday no tests should be using printk unless configured to do so, ie small memory targets. There seems to be some confusion.

Some tests must not use printf, due to execution environment constraints, e.g. interrupt context, no drivers, early system state, fatal error, etc.

If you consider this as a blocker, then you possibly delay the release for several months.

Author: Trac Migrate 2017-10-13T13:38:59.000Z

An short term option would be a unification of the BSP option to select a polled console driver.

Author: Joel Sherrill 2017-10-13T13:41:11.000Z

There is a buffered test up option for the tests which will help those that use the infrastructure. Should be in testsuites/configure.ac

Author: Chris Johns 2017-10-13T13:42:07.000Z

Replying to [Sebastian Huber](#):

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

Replying to [Chris Johns](#):

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No, this is not the case for the real hardware BSPs which usually use an interrupt driven console driver.

This seems like a new requirement. Has something changed in RTEMS to cause this? I do not remember having this problem with previous versions.

At least since I use RTEMS, this was the case. I asked questions about this on the mailing list.

The beaglebone black does not have the same problems as the Zynq. I checked the drivers for the BBB and there is an interrupt version so I wonder if the polled driver is used by default. I did not check this.

The console drivers are a real mess. We have no link-time configuration options/mechanism for drivers. Its not so easy.

If consoles provide interrupt and poll devs, why have the test close the console and reopen it with the polled driver? Yeah ok It is easy to say this and no I have not looked into the detail and what complexity there is. :)

Changing the tests so that they work with an interrupt driven console driver is hard. I don't think it makes sense. What we need is a non-blocking test output support.

Agreed, I was not considering changing the tests to do this rather how output is handled. There is the TESTS_BUFFER_OUTPUT and TESTS_USE_PRINTK can they be forced on and all stdout and stderr paths switched to what is used?

If you consider this as a blocker, then you possibly delay the release for several months.

This is being a little dramatic. I am not after a rewrite, I am looking for a simple pragmatic solution. We need the ability to test on hardware in a repeatable manner for the life of the release branch.

Author: Trac Migrate 2017-10-13T13:44:54.000Z

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

Replying to [Chris Johns](#):

I have always assumed the default configuration for **any** BSP lets the tests run. Is this not the case?

No, this is not the case for the real hardware BSPs which usually use an interrupt driven console driver.

This seems like a new requirement. Has something changed in RTEMS to cause this? I do not remember having this problem with previous versions.

At least since I use RTEMS, this was the case. I asked questions about this on the mailing list.

The beaglebone black does not have the same problems as the Zynq. I checked the drivers for the BBB and there is an interrupt version so I wonder if the polled driver is used by default. I did not check this.

It depends also on the hardware, FIFO depth, DMA support, etc.

Author: Chris Johns 2017-10-13T13:47:42.000Z

Replying to [Sebastian Huber](#):

An short term option would be a unification of the BSP option to select a polled console driver.

We have an option `--enable-tests=all`? Should this force polled drivers?

Author: Trac Migrate 2017-10-16T05:22:23.000Z

Its not really transparent to the user that `--enable-tests=all` tinkers with the console driver.

Author: Trac Migrate 2017-10-23T11:49:42.000Z

In [\[changeset:"88e84c2236146049386be55b4f6373cf75c50aed/rtems"88e84c22/rtems\]](#):

```
1 testsuite: Fix build
2
3 Updates #3170.
```

Author: Trac Migrate 2017-10-24T21:33:16.000Z

In [\[changeset:"4c701106fa81d480de6b6d9c99c972738c2ee026/rtems"4c70110/rtems\]](#):

```
1 testsuite: Fix build
2
3 Updates #3170.
```

Author: Trac Migrate 2017-10-26T12:06:21.000Z

Tests must be audited to ensure that they don't call the standard output functions, e.g.

```
nm find -name '*.exe' | grep 'exe:|<f?printf>|<puts>'
```

Author: Trac Migrate 2017-10-27T05:01:07.000Z

Original author: sebastian.huber

- **Description** changed

```

1 + Test runs with a interrupt driven console driver result in unreliable_
  ↳test outcomes.
2 +
3 + Problem was noticed with test runs on Microzed, for example libtest/
  ↳block08:
4 +
5 The test prints:
6 {{{
7 ** END OF TEST BLOCK 8 ***
8 }}}
9
10 The `rtems-test` command marks the result as a failure. There is a_
  ↳single `*` missing from the start of the line. I attach the full test_
  ↳trace.
```

- **Summary** changed from *Microzed libtest/block08 fails to print end of test correctly.* to *Use BSP_output_char via RTEMS printer for test output by default*

If we use BSP_output_char for all tests, then the console driver is not tested. We probably need a special test for it.

We should also remove CONFIGURE_APPLICATION_NEEDS_CONSOLE_DRIVER from all other tests.

Author: Trac Migrate 2017-10-28T12:08:04.000Z

In [changeset:"f703e7f5c7082e267558fe2079140869daec8dfd/rtems" f703e7f/rtems]:

```

1 tests: Move rtems_test_printer definition
2
3 Statically initialize it to use printk().
4
5 Update #3170.
6 Update #3199.
```

Author: Trac Migrate 2017-10-28T12:08:16.000Z

In [changeset:"7bec7f2715f0f3495f59513e61c319fe65a3fd40/rtems" 7bec7f27/rtems]:

```
1 rtems: Add rtems_print_printer_fprintf_putc()
2
3 Update #3170.
4 Update #3199.
```

Author: Trac Migrate 2017-10-28T12:08:27.000Z

In [changeset:"73d892d8a8da4fd35a2cad9b52405c6da0c8cb8f/rtems" 73d892d8/rtems]:

```
1 tests: Use rtems_test_printer
2
3 Update #3170.
4 Update #3199.
```

Author: Trac Migrate 2017-10-28T12:08:39.000Z

In [changeset:"46ddc3c5daa97cd5d96f5c495e98d2854dbfa8d6/rtems" 46ddc3c5/rtems]:

```
1 tests: Use rtems_print_printer_fprintf_putc()
2
3 Use rtems_print_printer_fprintf_putc() instead of
4 rtems_print_printer_printf() to output via rtems_putc().
5
6 Update #3170.
7 Update #3199.
```

Author: Trac Migrate 2017-10-28T12:08:51.000Z

In [changeset:"7e1029158ed6f11e36341a57fed07fa3014068da/rtems" 7e10291/rtems]:

```
1 tests: Use rtems_test_printer in general
2
3 Update #3170.
4 Update #3199.
```

Author: Trac Migrate 2017-10-28T12:09:02.000Z

In [changeset:"acc9d064682f79ffb77e0f1c0d1cace29f087672/rtems" acc9d064/rtems]:

```

1 tests: Remove obsolete TESTS_USE_PRINTK
2
3 Update #3170.
4 Update #3199.

```

Author: Trac Migrate 2017-10-28T12:09:15.000Z

In [changeset:"af4355459ee843fb984aafe22a7531e922ee753e/rtems" af43554/rtems]:

```

1 tests: Remove TEST_INIT
2
3 The TEST_EXTERN is a used only by the system.h style tests and they use
4 CONFIGURE_INIT appropriately.
5
6 Update #3170.
7 Update #3199.

```

Author: Trac Migrate 2017-10-30T05:31:17.000Z

In [changeset:"2126438a07a7763d986c7bf7fed06eea2df6cf1a/rtems" 2126438a/rtems]:

```

1 testsuite: Add bspIo for a local printk.
2
3 Update #3170.
4 Update #3199.

```

Author: Trac Migrate 2017-11-02T13:25:12.000Z

In [changeset:"0d796d6dc76c29a543411df2c8d1408999870023/rtems" 0d796d6/rtems]:

```

1 tests: Delete obsolete TESTS_USE_PRINTF
2
3 Update #3170.
4 Update #3199.

```

Author: Trac Migrate 2017-11-02T13:26:51.000Z

In [changeset:"8c1f4064ad668c6bab0fb106386e9e2d33d06d31/rtems" 8c1f4064/rtems]:

```

1 tests: Use printf() instead of fprintf()
2

```

(continues on next page)

(continued from previous page)

```

3 Update #3170.
4 Update #3199.

```

Author: Trac Migrate 2017-11-06T06:29:25.000Z

In [changeset:"ac28f1588d4cfd315ec59d485df432c79d13cd46/rtems" ac28f15/rtems]:

```

1 Add simple console driver
2
3 Update #3170.
4 Update #3199.

```

Author: Trac Migrate 2017-11-06T06:29:41.000Z

In [changeset:"c4b8b147ddfc945810b60a2410efd8acc280ba3c/rtems" c4b8b147/rtems]:

```

1 tests: Use simple console driver
2
3 Update #3170.
4 Update #3199.

```

Author: Trac Migrate 2017-11-07T06:09:15.000Z

In [changeset:"7b00c2fac57740963d3c4d8bf1cf5eab3a31f22e/rtems" 7b00c2fa/rtems]:

```

1 tests: Use <tmacros.h> in all tests
2
3 Update #3170.
4 Update #3199.

```

Author: Trac Migrate 2017-11-07T07:32:57.000Z

In [changeset:"32ceb38513091f2f0c68f2db369384030262eb1f/rtems" 32ceb38/rtems]:

```

1 tests: Use <tmacros.h>
2
3 Update #3170.
4 Update #3199.

```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Trac Migrate2017-11-13T09:01:06.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

Author: Trac Migrate2017-11-13T09:02:07.000Z

- **Summary** changed from *Use BSP_output_char via RTEMS printer for test output by default* to *Use BSP_output_char via RTEMS printer or simple console driver for test output by default*

Author: Trac Migrate2018-02-05T09:48:37.000Z

In [changeset:”d078405b9a8e1a83db721c3d0be781562ff4896f/rtems-docs”
d078405/rtems-docs]:

1 CONFIGURE_APPLICATION_NEEDS_SIMPLE_CONSOLE_DRIVER
2
3 Close #3170.
4 Update #3199.

Author: Amar Takhar2024-04-25T20:45:52.506Z

changed the description

4.2.1.209 3152 - Beaglebone Black crashes on u-boot master build.

Id	3152
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-09-22T05:27:55.000Z
Updated	2024-04-25T20:45:51.914Z
Milestone	5.1
Labels	bsp, bsp:beaglebone, priority::high, resolution::wontfix, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3152
Merges	0

The crash with a Linux type image and no FDT is:

```

1 ] ## Booting kernel from Legacy Image at 82000000 ...
2 ]   Image Name:   RTEMS
3 ]   Image Type:   ARM Linux Kernel Image (gzip compressed)
4 ]   Data Size:    60886 Bytes = 59.5 KiB
5 ]   Load Address: 80000000
6 ]   Entry Point:  80000000
7 ]   Verifying Checksum ... OK
8 ]   Uncompressing Kernel Image ... OK
9 ]
10 ] Starting kernel ...
11 ]
12 ] data abort
13 ]
14 ]   MAYBE you should read doc/README.arm-unaligned-accesses
15 ]
16 ] pc : [<8000010c>]      lr : [<800000ac>]
17 ] sp : 80101000  ip : 0000000c  fp : 9f35ac28
18 ] r10: 9f3ad0f4  r9 : 00000000  r8 : 9f238f40
19 ] r7 : 00000000  r6 : 80000100  r5 : 00000e05  r4 : 60000193
20 ] r3 : 9f238fe0  r2 : 80000100  r1 : 00000e05  r0 : 60000193
21 ] Flags: nzcw  IRQs off  FIQs on  Mode SVC_32
22 ] Resetting CPU ...

```

and the code is:

```

1 BSP_START_TEXT_SECTION void bsp_start_hook_0(void)
2 {
3 }
4 80000104:      e12fff1e      bx      lr
5
6 80000108 <bsp_start_hook_1>:
7 BSP_START_TEXT_SECTION static inline arm_a8core_start_set_vector_base(void)
8 {
9 /*
10 * Do not use bsp_vector_table_begin == 0, since this will get optimized away.
11 */
12 if (bsp_vector_table_end != bsp_vector_table_size) {
13 80000108:      e3002040      movw    r2, #64 ; 0x40
14 8000010c:      e3003040      movw    r3, #64 ; 0x40
15 80000110:      e3482000      movt    r2, #32768      ; 0x8000
16 80000114:      e3403000      movt    r3, #0
17 80000118:      e1520003      cmp     r2, r3

```

Author: Chris Johns 2017-09-22T08:12:37.000Z

My u-boot is the original one that comes with the board. I am working out how to get a new one to boot from an SD Card

Author: Chris Johns 2017-09-25T03:45:39.000Z

The SD card requires you position the SPL (MLO) and u-boot image in specific locations to boot:

```
1 dd if=MLO          of=sdcard.img count=1 seek=1 conv=notrunc bs=128k
2 dd if=u-boot.img of=sdcard.img count=2 seek=1 conv=notrunc bs=384k
```

The SD card can be formatted with anything.

Author: Joel Sherrill 2017-10-11T23:11:19.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*
- **Summary** changed from *Beaglebone Black crashes on u-boot master build.* to *Beaglebone Black crashes on u-boot master build.*

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Joel Sherrill 2018-10-14T00:42:04.000Z

- **Resolution** set to ~"wontfix"
- **Status** changed from *assigned* to *closed*

There is a work around. If broken again, someone can reopen or file a new ticket.

Author: Amar Takhar 2024-04-25T20:45:52.029Z

changed the description

4.2.1.210 3148 - PSXRDWRV Test failure on Beaglebone Black

Id	3148
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2017-09-21T06:44:13.000Z
Updated	2024-04-25T20:45:50.578Z
Milestone	5.1
Labels	api::posix, bsp:beaglebone, priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3148
Merges	0

Running rtems-test with a recent u-boot and a current master this failure is reported:

```

1 ] RTEMS Beagleboard: am335x-based
2 ]
3 ]
4 ] *** BEGIN OF TEST PSXRDWRV ***
5 ] writev bad file descriptor -- EBADF
6 ] writev error 1: 22=Invalid argument
7 ] Error during error test!!!!

```

Author: Joel Sherrill 2017-09-21T15:15:38.000Z

Works on erc32 Fails on jmr3904, psim, and xilinx_zynq_a9_qemu

Tracked down to needing a memset on a stack variable “vec” which was an IO vector. Apparently depending on the BSP, the variable was zero or not. Patch to follow

Author: Trac Migrate 2017-09-21T15:17:28.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In [changeset:”714cb06f18ce2c0df265ada06363d71560f14a3e/rtems”
714cb06/rtems]:

```

1 psxrdwrv/test.c: Clear iovec to ensure consistent results
2
3 closes #3148.

```

Author: Trac Migrate 2017-10-05T08:30:10.000Z

- **Milestone** changed from %”Indefinite” to %”4.12.0”

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:50.618Z

changed the description

4.2.1.211 3087 - RSB rtems-gdb-7.12-1.cfg MD5 value is ERROR

Id	3087
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2017-08-02T01:41:36.000Z
Updated	2024-04-25T20:45:46.986Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3087
Merges	0

Original author: likangbei

rtems-source-builder
gdb-7.12-sis-leon2-leon3.diff
“40670e05b7fc3868a405fb43138f3262” is right

line 16: %hash md5
“fe29e7daaab3bf70c99cda6925d8c0c5” is error

TEST on WIN7+MSYS2

My English is bad! Sorry

Author: Chris Johns 2017-08-14T00:59:54.000Z

Original author: likangbei

- **Milestone** set to %”4.12.0”
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: likangbei

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:47.093Z

changed the description

4.2.1.212 3027 - RTEMS source builder fails when building gcc documentation with newer versions of gcc

Id	3027
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2017-05-30T17:25:21.000Z
Updated	2024-04-25T20:45:44.687Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::gcc, version::4.11, version::4.12, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3027
Merges	0

Original author: burrusse

Originally discovered with MSYS2 on windows. Building the gcc compiler fails for older versions of gcc (ie 4.8.3) when building bfin and m32c architectures. The gcc maintainers recommend the use of MISSING=texinfo switch during configuration. A possible solution is attached.

- [gcc-MakeInfoFix-20170529-1.patch](#)

Author: Trac Migrate 2017-05-30T17:26:17.000Z

Original author: burrusse

- **Attachment** [gcc-MakeInfoFix-20170529-1.patch](#) added

Author: Trac Migrate 2017-05-31T00:52:01.000Z

Original author: burrusse

Originally discovered with MSYS2 on windows while building rtems 4.11. Building the gcc compiler fails when trying to build the documentation. This applies when a new version of gcc is used to build older versions of gcc (ie 4.8.3 such as when building bfin and m32c architectures for 4.11). The gcc maintainers recommend the use of MISSING=texinfo switch during configuration. A possible solution is attached.

NOTE: this problem should also exist when trying to build rtems 4.10 compilers and earlier.

Author: Chris Johns 2017-06-13T00:32:49.000Z

Original author: burrusse

Is it MISSING=texinfo per the comments or MAKEINFO=missing as in the patch?

Also I am thinking of adding this before the configure command set the environment variable:

```
1 %if %{_host_os} == win32
2 export MAKEINFO=missing
3 %endif
```

Author: Chris Johns 2017-06-13T05:45:21.000Z

Original author: burrusse

- **Milestone** set to %"4.11.2"

Author: Trac Migrate 2017-06-13T13:27:39.000Z

Original author: burrusse

- **Milestone** %"4.11.2" deleted

Sorry for the Confusion. I have been using: MAKEINFO=missing. I can not fathom where I got the other the switch from or if it is even valid.

Limiting the solution to just windows fixes the problem for now, but will become a problem down the road as more OS's move to newer versions of GCC. From my point of view having a test to see if the Host GCC version is > 6.x is the way to do it. but I do not see a way to execute that logic. So for the short term that solution looks good.

Author: Chris Johns 2017-06-14T00:06:10.000Z

Original author: burrusse

Thanks for clearing up which to use.

There is a reference on line to where the GCC developers discuss this issue and the solution?

I am sorry but I am not following the relationship with makeinfo and the host's gcc version.

Author: Trac Migrate 2017-06-14T18:25:56.000Z

Original author: burrusse

Chris, you are correct it is not GCC version, I should have looked a little further it is makeinfo version. I got my original patch idea from here: https://gcc.gnu.org/bugzilla/show_bug.cgi?id=60961 with better descriptions here: <https://dev.openwrt.org/ticket/13039> and here: <https://osmocom.org/issues/1916>

My MSYS2 is using makeinfo version 6.3 My CentOS was building fine and currently has makeinfo version 5.1

Author: Chris Johns 2017-06-15T03:13:29.000Z

Original author: burrusse

Replying to **Worth Burruss**:

Chris, you are correct it is not GCC version, I should have looked a little further it is makeinfo version. I got my original patch idea from here: https://gcc.gnu.org/bugzilla/show_bug.cgi?id=60961

Thanks. Yes we need to disabled it for all gcc-4 builds.

This says MISSING=texinfo.

with better descriptions here: <https://dev.openwrt.org/ticket/13039>

Here says MAKEINFO=missing.

and here: <https://osmocom.org/issues/1916>

and this has no solution.

My MSYS2 is using makeinfo version 6.3
My CentOS was building fine and currently has makeinfo version 5.1

Looks like we need this handled on the master branch as well.

Author: Chris Johns 2017-06-29T04:52:36.000Z

Original author: burrusse

I have a tried a both options and makeinfo is being run. I cannot make this work.

Author: Chris Johns 2017-06-29T05:43:27.000Z

Original author: burrusse

I was wrong MAKEINFO=missing is the solution. It seems like it is a configure thing.

Author: Trac Migrate 2017-07-03T03:38:22.000Z

Original author: burrusse

In [changeset:"0a916c3058238377802188ebc3af6b664322d8ba/rtems-source-builder" 0a916c3/rtems-source-builder]:

```
1 gcc: Disable makenfo cause newer verisons do not build gcc-4.8 docs.
2
3 Newer makeinfo tools cannot build the existing texinfo in gcc so
4 disable building it. This will not be fixed on the gcc branches.
5
6 Updates #3027.
```

Author: Chris Johns 2017-08-07T01:51:09.000Z

Original author: burrusse

- **Milestone** set to %”4.12.0”
- **Status** changed from *new* to *assigned*
- **Version** changed from ~”4.11” to ~”4.12”

Moving this to 4.12 as it has been fixed on 4.11.

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: burrusse

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Chris Johns 2018-04-10T07:37:33.000Z

Original author: burrusse

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

Author: Amar Takhar 2024-04-25T20:45:44.788Z

changed the description

4.2.1.213 3011 - Error compiling xilinx_zynq_zedboard.

Id	3011
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Gedare Bloom
Created	2017-05-09T08:28:39.000Z
Updated	2024-04-25T20:45:44.221Z
Milestone	5.1
Labels	arch:arm, bsp, priority::normal, resolution::invalid, resolution::worksforme, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3011
Merges	0

Original author: arturete

I encountered an error compiling the xilinx_zynq_zedboard BSP. I am using a built of the RSB that I compiled in December. With that built of the RSB I could built this BSP several times until I did a git pull of the RTEMS repo two weeks ago. Today I updated my repos of the RTEMS and RSB sources, I rebuilt the RSB and I tried to built again the xilinx_zynq_zedboard BSP, encountering the same error:

```
gmake[6]: *** No rule to make target `posix/include/sys/mman.h', needed by
`../cpukit/../../xilinx_zynq_zedboard/lib/include/sys/mman.h'. Stop.
```

Author: Gedare Bloom 2017-05-09T14:24:45.000Z

Original author: arturete

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

You need to re-build your toolchain with a new git-pull of the RSB.

Author: Trac Migrate 2017-05-10T08:50:57.000Z

Original author: arturete

As I wrote, I updated the RSB sources by doing a git-pull. Then, I built it again, but using this new version I found the same error. I did it yesterday and today.

Author: Gedare Bloom 2017-05-10T12:46:23.000Z

Original author: arturete

- **Resolution** ~"invalid" deleted
- **Status** changed from *closed* to *reopened*

The sys/mman.h was moved from RTEMS into newlib awhile ago, but maybe there is a problem with the integration. I recently added the mmap/munmap support. I'll try to look at this, can anyone else replicate it?

Author: Gedare Bloom 2017-05-10T12:46:43.000Z

Original author: arturete

- **Owner** set to @gedare
- **Status** changed from *reopened* to *assigned*

Author: Joel Sherrill 2017-05-10T13:07:47.000Z

Original author: arturete

I built all BSPs overnight and didn't have any failures due to this. I always bootstrap -c and rebootstrap before a build sweep. It is quite possible that the Makefile.in didn't get regenerated in the reporter's source tree.

Author: Gedare Bloom 2017-05-10T16:40:46.000Z

Original author: arturete

Yes, that makes sense. Arturo, please do bootstrap -c and then bootstrap, configure and make.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

Original author: arturete

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-05-11T08:25:39.000Z

Original author: arturete

Yes, that was the solution. I was not doing bootstrap -c.

From now I will do the built always following the steps as Joel said.

Thanks, so much. Sorry, if I made you losing a bit of time.

Author: Trac Migrate 2017-05-11T11:08:58.000Z

Original author: arturete

- **Resolution** set to ~"worksforme"
- **Status** changed from *assigned* to *closed*

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: arturete

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:44.263Z

changed the description

4.2.1.214 3007 - ARM caching issues

Id	3007
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-04-27T14:23:57.000Z
Updated	2024-04-25T20:45:43.342Z
Milestone	5.1
Labels	arch:arm, bsp, priority::normal, resolution::fixed, tickettype::defect, version::4.11, version::4.12
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3007
Merges	0

Original author: munster

There are two problems with the caching on ARM: * In cases where the buffer is not aligned to line boundary at the beginning or the end, the invalidate operation would lose modifications done on the adjacent data. This applies to both L1 and L2 caches. * The L2C-310 cache management operations use excessive locking. According to [manual](#), the used operations (Clean Line by PA, Clean and Invalidate Line by PA, Cache Sync) are atomic and do not require locking.

I have attached the proposed patch.

- [0001-Remove-excessive-locking-from-cache-operations.patch](#)
- [0002-Fix-cache-invalidate-behavior.patch](#)
- [cache.diff](#)
- [cache_invalidate.diff](#)
- [cache_locking.diff](#)
- [v2-0001-Remove-excessive-locking-from-cache-operations.patch](#)
- [v2-0002-Fix-cache-invalidate-behavior.patch](#)

Author: Trac Migrate 2017-04-27T14:24:20.000Z

Original author: munster

- **Attachment** [cache.diff](#) added

Author: Chris Johns 2017-04-27T23:44:36.000Z

Original author: munster

Why have you changed the signature of some of the functions to be uint32_t, uint32_t from ``const void\* , const size\_t ``?

Author: Trac Migrate 2017-04-28T15:13:35.000Z

Original author: munster

Well, I was just following the Linux driver [example](#). If you don't like it, I can use the previous function signature.

Author: Chris Johns 2017-04-30T22:09:35.000Z

Original author: munster

Replying to [munster](#):

Well, I was just following the Linux driver [example](#). If you don't like it, I can use the previous function signature.

I think it is best a change like this is as small as can be and keeping the existing function signatures helps do this so please revert that part of the change and post a new patch. Thanks.

Author: Trac Migrate 2017-05-02T05:30:52.000Z

Original author: munster

Please don't change the function signatures. Please generate one patch for each issue.

Its up to the user to ensure that a cache line invalidation is safe. The cache manager should not take care of this.

Author: Trac Migrate 2017-05-08T09:58:29.000Z

Original author: munster

- **Attachment** [cache_invalidate.diff](#) added

Author: Trac Migrate 2017-05-08T09:58:44.000Z

Original author: munster

- **Attachment** [cache_locking.diff](#) added

Author: Trac Migrate 2017-05-08T10:02:40.000Z

Original author: munster

Replying to [Sebastian Huber](#):

Please don't change the function signatures. Please generate one patch for each issue. I have attached separate patches for these two issues.

Its up to the user to ensure that a cache line invalidation is safe. The cache manager should not take care of this. Generally you are right. However, the user may not be aware of this particular problem.

Author: Trac Migrate 2017-05-09T07:58:16.000Z

Original author: munster

Replying to [munster](#):

Replying to [Sebastian Huber](#):

Please don't change the function signatures. Please generate one patch for each issue.

I have attached separate patches for these two issues.

Could you please format the patches via "git format-patch":

<https://docs.rtems.org/branches/master/user/support/contrib.html>

Please help to improve the wiki and website if something is unclear or hard to find.

Its up to the user to ensure that a cache line invalidation is safe. The cache manager should not take care of this.

Generally you are right. However, the user may not be aware of this particular problem.

The we should fix this issue with better documentation. In

<https://git.rtems.org/rtems/tree/cpukit/rtems/include/rtems/rtems/cache.h#n111>

we have

```

1 /**
2  * @brief Invalidates multiple data cache lines.
3  *
4  * The cache lines covering the area are marked as_
5  * ↪invalid. A later read
6  *
7  * access in the area will load the data from memory.
8  *
9  * In case the area is not aligned on cache line_
10 * ↪boundaries, then this
11 * operation may destroy unrelated data.
12 *
13 * @param[in] addr The start address of the area to_
14 * ↪invalidate.
15 * @param[in] size The size in bytes of the area to_
16 * ↪invalidate.
17 */
18 void rtems_cache_invalidate_multiple_data_lines(
19   const void *addr,
20   size_t size
21 );

```

The cache manager documentation probably needs to move into the user manual. Maybe some examples help to show what can go wrong.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

Original author: munster

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-05-11T14:25:40.000Z

Original author: munster

- **Attachment** 0001-Remove-excessive-locking-from-cache-operations.patch added

Author: Trac Migrate 2017-05-11T14:25:54.000Z

Original author: munster

- **Attachment** 0002-Fix-cache-invalidate-behavior.patch added

Author: Trac Migrate 2017-05-11T14:27:34.000Z

Original author: munster

Replying to **Sebastian Huber**:

Could you please format the patches via "git format-patch": I have attached the patches.

Author: Trac Migrate 2017-05-12T05:23:15.000Z

Original author: munster

See

<https://devel.rtems.org/wiki/Developer/Git/Users#CreatingaPatch>

Please use your real name for the patch with a valid e-mail address.

Author: Trac Migrate 2017-06-08T07:46:40.000Z

Original author: munster

- **Milestone** changed from %"4.12.0" to %"4.12.1"

Author: Trac Migrate 2017-06-12T07:34:17.000Z

Original author: munster

Without a real name I cannot apply this patch.

Author: Trac Migrate 2017-06-14T11:43:59.000Z

Original author: munster

- **Attachment** [v2-0001-Remove-excessive-locking-from-cache-operations.patch](#) added

Author: Trac Migrate 2017-06-14T11:44:10.000Z

Original author: munster

- **Attachment** [v2-0002-Fix-cache-invalidate-behavior.patch](#) added

Author: Trac Migrate 2017-06-14T11:45:18.000Z

Original author: munster

Replying to [Sebastian Huber](#):

Without a real name I cannot apply this patch. Re-attached with real name.

Author: Trac Migrate 2017-06-14T13:41:30.000Z

Original author: munster

In [\[changeset:"fd10817a8355653043f8addfe2ef975bedad093a/rtems" fd10817/rtems\]](#):

```

1 Remove excessive locking from cache operations.
2
3 According to manual, the used operations (Clean Line by PA, Clean and
4 Invalidate Line by PA, Cache Sync) are atomic and do not require
5 locking.
6
7 Update #3007.
```

Author: Trac Migrate 2017-06-14T13:46:21.000Z

Original author: munster

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

It is up to the user to ensure that its safe to invalidate a certain data area.

Author: Trac Migrate 2017-06-14T13:46:35.000Z

Original author: munster

- **Version** changed from ~"4.12" to ~"4.11"

Author: Chris Johns 2017-07-12T22:32:43.000Z

Original author: munster

- **Milestone** changed from %"4.12.1" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: munster

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:43.405Z

changed the description

4.2.1.215 2992 - Long path crashes the RSB when listing a directory.

Id	2992
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-04-14T01:15:44.000Z
Updated	2024-04-25T20:45:42.090Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::4.11, version::4.12, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2992
Merges	0

Building LM32 on Windows crashes the RSB with a long path. The `os.listdir` call in Python on Windows is limited to 254 characters even if the path is Unicode.

```

1 building: lm32-rtems4.11-gcc-4.9.3-newlib-2.2.0.20150423-x86_64-w64-mingw32-1
2 Build Set: Time 0:29:19.809228
3 Build Set: Time 3:47:43.385503
4 Traceback (most recent call last):
5 File "../source-builder/sb-set-builder", line 29, in <module>
6 setbuilder.run()

```

(continues on next page)

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```

7 File "../source-builder/sb/setbuilder.py", line 502, in run
8 b.build(deps)
9 File "../source-builder/sb/setbuilder.py", line 340, in build
10 bs.build(deps, nesting_count)
11 File "../source-builder/sb/setbuilder.py", line 354, in build
12 self.build_package(configs[s], b)
13 File "../source-builder/sb/setbuilder.py", line 194, in build_package
14 _build.config.expand('%{_tmproot}'))
15 File "../source-builder/sb/setbuilder.py", line 155, in root_copy
16 self.copy(src, dst)
17 File "../source-builder/sb/setbuilder.py", line 95, in copy
18 path.copy_tree(src, dst)
19 File "../source-builder/sb/path.py", line 232, in copy_tree
20 copy_tree(srcname, dstname)
21 File "../source-builder/sb/path.py", line 232, in copy_tree
22 copy_tree(srcname, dstname)
23 File "../source-builder/sb/path.py", line 232, in copy_tree
24 copy_tree(srcname, dstname)
25 File "../source-builder/sb/path.py", line 232, in copy_tree
26 copy_tree(srcname, dstname)
27 File "../source-builder/sb/path.py", line 232, in copy_tree
28 copy_tree(srcname, dstname)
29 File "../source-builder/sb/path.py", line 232, in copy_tree
30 copy_tree(srcname, dstname)
31 File "../source-builder/sb/path.py", line 232, in copy_tree
32 copy_tree(srcname, dstname)
33 File "../source-builder/sb/path.py", line 232, in copy_tree
34 copy_tree(srcname, dstname)
35 File "../source-builder/sb/path.py", line 232, in copy_tree
36 copy_tree(srcname, dstname)
37 File "../source-builder/sb/path.py", line 232, in copy_tree
38 copy_tree(srcname, dstname)
39 File "../source-builder/sb/path.py", line 232, in copy_tree
40 copy_tree(srcname, dstname)
41 File "../source-builder/sb/path.py", line 232, in copy_tree
42 copy_tree(srcname, dstname)
43 File "../source-builder/sb/path.py", line 232, in copy_tree
44 copy_tree(srcname, dstname)
45 File "../source-builder/sb/path.py", line 232, in copy_tree
46 copy_tree(srcname, dstname)
47 File "../source-builder/sb/path.py", line 232, in copy_tree
48 copy_tree(srcname, dstname)
49 File "../source-builder/sb/path.py", line 191, in copy_tree
50 names = os.listdir(hsrc)
51 TypeError: encoded string too long (269, maximum length 259)

```

Author: Chris Johns 2017-04-18T00:34:38.000Z

I have looked into this issue in detail and it is complicated. At the heart of the

problem is the inherent path limit in the WIN32 API which is documented in [Naming Files, Paths, and Namespaces.aspx](#)). There is also [Python Issue 27731](<https://bugs.python.org/issue27731>) which details how Python will respond.

I see a couple of solution, one complicated and full of potential issues which others have solved, for example the MSYS2 shell, and the second is a simple hack. The complex solution is to step down to the Win32 API and selectively use Win32 API calls that support the Unicode extension to let the RSB work. I feel this is a lot of work and difficult to get to work. The second solution is to generate a script and to run it and let the shell on the host manage the issue. The RSB needs a shell to build most packages so it has to be present.

We see the long file name issue when coping a tree and removing a tree.

Author: Chris Johns 2017-06-15T02:46:32.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Fixed with the patch [changeset:78c1524/rtems-source-builder].

Author: Chris Johns 2017-08-07T02:16:18.000Z

- **Milestone** changed from %"4.11.2" to %"4.12.0"
- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*
- **Version** changed from ~"4.11" to ~"4.12"

This 4.11 fix needs to be ported to 4.12.

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Chris Johns 2018-10-14T20:45:22.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

The patch in this ticket is applied to master.

Author: Amar Takhar 2024-04-25T20:45:42.198Z

changed the description

4.2.1.216 2990 - RTEMS Source Builder Fails on Windows Builds

Id	2990
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2017-04-11T13:45:49.000Z
Updated	2024-04-25T20:45:41.588Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::gcc, version::4.11, version::4.12, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2990
Merges	0

Original author: burrusse

The source Builder Fails to build 4.11 tools under MSYS2 and windows. Newer versions of MSYS use a version of gcc greater than 6.0 which can no longer be used to build older version of gcc.

The attached patch is from the gcc mailing list and originally was for gcc version 5.3. It has been adjusted so that it applies to 4.9.3.

This problem should also apply to linux and other systems that use newer gcc 6.0 and above.

- [gcc-4.9.3-20170404-1.patch](#)

Author: Trac Migrate 2017-04-11T13:46:55.000Z

Original author: burrusse

- **Attachment** [gcc-4.9.3-20170404-1.patch](#) added

Author: Chris Johns 2017-04-12T01:09:21.000Z

Original author: burrusse

- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-04-12T10:27:08.000Z

Original author: burrusse

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"e85c673ef261f9811d16a24ff8893d70f65538c4/rtems-source-builder" e85c673/rtems-source-builder]:

```

1 MSYS2: Patch to support newer packages.
2
3 The patch is contributed by Worth Burruss.
4
5 Closes #2990.

```

Author: Chris Johns 2017-04-13T07:48:24.000Z

Original author: burrusse

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

Building 4.11.2-rc4 on Windows with a new MSYS2 install has an error on rtems-arm:

```

1 In file included from ../../gcc-4.9.3/gcc/cp/except.c:1013:0:
2 cfns.gperf: In function 'const char* libc_name_p(const char*, unsigned_
  ↳int)':
3 cfns.gperf:101:1: error: 'const char* libc_name_p(const char*, unsigned_
  ↳int)' redeclared inline with 'gnu_inline' attribute
4 cfns.gperf:26:14: note: 'const char* libc_name_p(const char*, unsigned_
  ↳int)' previously declared here
5 cfns.gperf: At global scope:
6 cfns.gperf:26:14: warning: inline function 'const char* libc_name_
  ↳p(const char*, unsigned int)' used but never defined
7 make[2]: *** [Makefile:1059: cp/except.o] Error 1

```

I am not sure the patch is ok so I am reopening this ticket.

Author: Chris Johns 2017-05-26T03:07:34.000Z

Original author: burrusse

The problem with ARM is the bset file includes an arch specific cfg file. This patch needs to be added to that file.

I suggest you create a new cfg file with just this patch, remove it from config/tools/rtems-gcc-4.9-newlib-2.2.0-1.cfg, then include the file. Also add the include to config/tools/rtems-arm-gcc-4.9.3-newlib-2.2.0-20150423-1.cfg.

Author: Chris Johns 2017-06-15T02:50:23.000Z

Original author: burrusse

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

Fixed with patch [changeset:2433c4b/rtems-source-builder].

Author: Chris Johns 2017-08-07T01:33:45.000Z

Original author: burrusse

- **Milestone** changed from %"4.11.2" to %"4.12.0"
- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*
- **Version** changed from ~"4.11" to ~"4.12"

This bug effects m32c on the 4.12 (master) branch.

Author: Chris Johns 2017-08-07T23:41:35.000Z

Original author: burrusse

Windows (10 64bit) failures:

1. dtc-1.4.1
2. epiphany gdb-7.8.1
3. lm32 gdb-7.12
4. microblaze gdb-7.12
5. nios2 gcc-7.1.0, newlib-2.5.0.20170623
6. powerpc gdb-7.12
7. sparc gdb-7.12

We need all these issues resolved to branch 4.12.

Author: Chris Johns 2017-08-07T23:42:56.000Z

Original author: burrusse

dtc-1.4.1:

```

1 convert-dtsv0-lexer.lex.c:398:0: error: "yywrap" redefined [-Werror]
2 convert-dtsv0-lexer.lex.c:74:0: note: this is the location of the
  ↳ previous definition
3 convert-dtsv0-lexer.l:41:21: fatal error: fnmatch.h: No such file or
  ↳ directory
4 #include <fnmatch.h>
5 ^

```

Author: Joel Sherrill 2017-08-07T23:51:44.000Z

Original author: burrusse

What's the gdb problem? Is it the same on all the targets failing?

What about the nios2? That would seem to be a different issue.

Author: Chris Johns 2017-08-07T23:54:56.000Z

Original author: burrusse

lm32 gdb-7.12:

```

1 ../../gdb-7.12/sim/lm32/dv-lm32uart.c: In function 'lm32uart_io_read_
  ↳buffer':
2 ../../gdb-7.12/sim/lm32/dv-lm32uart.c:207:3: error: unknown type_
  ↳name 'fd_set'
3 fd_set fd;
4 ^~~~~~

```

Author: Chris Johns 2017-08-07T23:55:49.000Z

Original author: burrusse

microblaze gdb-7.12:

```

1 ../../gdb-7.12/sim/microblaze/interp.c: In function 'microblaze_
  ↳extract_unsigned_integer':
2 ../../gdb-7.12/sim/microblaze/interp.c:34:57: error: 'BIG_ENDIAN'_
  ↳undeclared (first use in this function)
3 #define target_big_endian (CURRENT_TARGET_BYTE_ORDER == BIG_ENDIAN)
4 ^
5 ../../gdb-7.12/sim/microblaze/interp.c:52:8: note: in expansion of_
  ↳macro 'target_big_endian'
6 if (!target_big_endian)
7 ^~~~~~
8 ../../gdb-7.12/sim/microblaze/interp.c:34:57: note: each undeclared_
  ↳identifier is reported only once for each function it appears in
9 #define target_big_endian (CURRENT_TARGET_BYTE_ORDER == BIG_ENDIAN)
10 ^
11 ../../gdb-7.12/sim/microblaze/interp.c:52:8: note: in expansion of_
  ↳macro 'target_big_endian'
12 if (!target_big_endian)
13 ^~~~~~
14 ../../gdb-7.12/sim/microblaze/interp.c: In function 'microblaze_
  ↳store_unsigned_integer':
15 ../../gdb-7.12/sim/microblaze/interp.c:34:57: error: 'BIG_ENDIAN'_
  ↳undeclared (first use in this function)
16 #define target_big_endian (CURRENT_TARGET_BYTE_ORDER == BIG_ENDIAN)
17 ^
18 ../../gdb-7.12/sim/microblaze/interp.c:74:8: note: in expansion of_
  ↳macro 'target_big_endian'
19 if (!target_big_endian)
20 ^~~~~~

```

Author: Chris Johns 2017-08-07T23:59:07.000Z

Original author: burrusse

nios2 gcc-7.1.0, newlib-2.5.0.20170623:

```

1 ../../../../../../../../../../gcc-7.1.0/libgcc/unwind-dw2-fde.c: At top_
  ↳level:
2 ../../../../../../../../../../gcc-7.1.0/libgcc/unwind-dw2-fde.c:56:1:
  ↳error: variable 'object_mutex' has initializer but incomplete type
3 static __gthread_mutex_t object_mutex = __GTHREAD_MUTEX_INIT;
4 ^~~~~~
5 make[4]: *** [../../../../../../../../gcc-7.1.0/libgcc/static-
  ↳object.mk:17: unwind-sjlj.o] Error 1
6 In file included from ../../../../../../../../../../gcc-7.1.0/libgcc/
  ↳gthr.h:148:0,
7 from ../../../../../../../../../../gcc-7.1.0/libgcc/emutls.c:31:
8 ./gthr-default.h:51:30: error: '_MUTEX_INITIALIZER' undeclared here_
  ↳(not in a function); did you mean 'PTHREAD_MUTEX_INITIALIZER'?
9 #define __GTHREAD_MUTEX_INIT _MUTEX_INITIALIZER
10 ^
11 ../../../../../../../../../../gcc-7.1.0/libgcc/emutls.c:58:41: note: in_
  ↳expansion of macro '__GTHREAD_MUTEX_INIT'
12 static __gthread_mutex_t emutls_mutex = __GTHREAD_MUTEX_INIT;
13 ^~~~~~
14 ../../../../../../../../../../gcc-7.1.0/libgcc/emutls.c: In function '__
  ↳emutls_get_address':
15 ../../../../../../../../../../gcc-7.1.0/libgcc/emutls.c:159:13:
  ↳warning: implicit declaration of function 'calloc' [-Wimplicit-
  ↳function-declaration]
16 arr = calloc (size + 1, sizeof (void *));
17 ^~~~~~
18 ../../../../../../../../../../gcc-7.1.0/libgcc/emutls.c:159:13:
  ↳warning: incompatible implicit declaration of built-in function
  ↳'calloc'
19 ../../../../../../../../../../gcc-7.1.0/libgcc/emutls.c:159:13: note:
  ↳include '<stdlib.h>' or provide a declaration of 'calloc'
20 ../../../../../../../../../../gcc-7.1.0/libgcc/emutls.c:171:13:
  ↳warning: implicit declaration of function 'realloc' [-Wimplicit-
  ↳function-declaration]
21 arr = realloc (arr, (size + 1) * sizeof (void *));
22 ^~~~~~
23 ../../../../../../../../../../gcc-7.1.0/libgcc/emutls.c:171:13:
  ↳warning: incompatible implicit declaration of built-in function
  ↳'realloc'
24 ../../../../../../../../../../gcc-7.1.0/libgcc/emutls.c:171:13: note:
  ↳include '<stdlib.h>' or provide a declaration of 'realloc'
25 ../../../../../../../../../../gcc-7.1.0/libgcc/emutls.c: At top level:
26 ../../../../../../../../../../gcc-7.1.0/libgcc/emutls.c:58:26: error:
  ↳storage size of 'emutls_mutex' isn't known

```

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```

27 static __gthread_mutex_t emutls_mutex = __GTHREAD_MUTEX_INIT;
28 ^~~~~~
29 In file included from ../../../../../../gcc-7.1.0/libgcc/
   ↳ gthr.h:148:0,
30 from ../../../../../../gcc-7.1.0/libgcc/unwind-dw2-fde.c:37:
31 ./gthr-default.h:51:30: error: '_MUTEX_INITIALIZER' undeclared here
   ↳ (not in a function); did you mean 'PTHREAD_MUTEX_INITIALIZER'?
32 #define __GTHREAD_MUTEX_INIT _MUTEX_INITIALIZER
33 ^
34 ../../../../../../gcc-7.1.0/libgcc/unwind-dw2-fde.c:56:41:
   ↳ note: in expansion of macro '__GTHREAD_MUTEX_INIT'
35 static __gthread_mutex_t object_mutex = __GTHREAD_MUTEX_INIT;
36 ^~~~~~
37 make[4]: *** [../../../../gcc-7.1.0/libgcc/static-
   ↳ object.mk:17: emutls.o] Error 1
38 ../../../../../../gcc-7.1.0/libgcc/unwind-dw2-fde.c:56:26:
   ↳ error: storage size of 'object_mutex' isn't known
39 static __gthread_mutex_t object_mutex = __GTHREAD_MUTEX_INIT;
40 ^~~~~~

```

Author: Chris Johns 2017-08-08T00:01:55.000Z

Original author: burrusse

powerpc gdb-7.12:

```

1 ../sim/ppc/libsim.a(sim_calls.o): In function `sim_io_read_stdin':
2 D:\\opt\\rtems\\rsb.git\\rtems\\build\\prg7xwm1\\build\\sim\\ppc\\../../
   ↳ ./gdb-7.12/sim/ppc/sim_calls.c:302: undefined reference to `error'
3 ../sim/ppc/libsim.a(sim_calls.o): In function `sim_io_write_stdout':
4 D:\\opt\\rtems\\rsb.git\\rtems\\build\\prg7xwm1\\build\\sim\\ppc\\../../
   ↳ ./gdb-7.12/sim/ppc/sim_calls.c:320: undefined reference to `error'
5 ../sim/ppc/libsim.a(sim_calls.o): In function `sim_io_write_stderr':
6 D:\\opt\\rtems\\rsb.git\\rtems\\build\\prg7xwm1\\build\\sim\\ppc\\../../
   ↳ ./gdb-7.12/sim/ppc/sim_calls.c:339: undefined reference to `error'
7 ../sim/ppc/libsim.a(sim_calls.o): In function `sim_io_printf_filtered':
8 D:\\opt\\rtems\\rsb.git\\rtems\\build\\prg7xwm1\\build\\sim\\ppc\\../../
   ↳ ./gdb-7.12/sim/ppc/sim_calls.c:358: undefined reference to `error'
9 ../sim/ppc/libsim.a(sim_calls.o): In function `sim_load':
10 D:\\opt\\rtems\\rsb.git\\rtems\\build\\prg7xwm1\\build\\sim\\ppc\\../../
   ↳ ./gdb-7.12/sim/ppc/sim_calls.c:105: undefined reference to `error'
11 ../sim/ppc/libsim.a(sim_calls.o):D:\\opt\\rtems\\rsb.git\\rtems\\build\\
   ↳ prg7xwm1\\build\\sim\\ppc\\../../gdb-7.12/sim/ppc/sim_calls.c:125:
   ↳ more undefined references to `error' follow

```

Tracked in GDB here https://sourceware.org/bugzilla/show_bug.cgi?id=20863

Author: Chris Johns 2017-08-08T00:02:59.000Z

Original author: burrusse

sparc gdb-7.12:

```

1 ../../../../gdb-7.12/sim/erc32/sis.c: In function 'main':
2 ../../../../gdb-7.12/sim/erc32/sis.c:245:16: warning: implicit declaration
   ↳ of function 'fcntl' [-Wimplicit-function-declaration]
3 termsave = fcntl(0, F_GETFL, 0);
4 ^~~~~
5 ../../../../gdb-7.12/sim/erc32/sis.c:245:25: error: 'F_GETFL' undeclared
   ↳ (first use in this function)
6 termsave = fcntl(0, F_GETFL, 0);
7 ^~~~~~
8 ../../../../gdb-7.12/sim/erc32/sis.c:245:25: note: each undeclared
   ↳ identifier is reported only once for each function it appears in

```

Author: Chris Johns 2017-08-09T23:36:23.000Z

Original author: burrusse

epiphany gdb or binutils:

```

1 syslex_wrap.o: In function `yylex':
2 D:\opt\rtms\rsb.git\rtms\build\verg7xwm1\build\binutils/syslex.
   ↳ c:1097: undefined reference to `yywrap'
3 collect2.exe: error: ld returned 1 exit status

```

Author: Chris Johns 2017-08-25T01:25:41.000Z

Original author: burrusse

Windows (10 64bit) failures with the gcc-7.2.0 changes to the RSB:

1. dtc-1.4.1
2. epiphany gdb-7.8.1
3. microblaze gdb-7.12
4. nios2 gcc-7.1.0, newlib-2.5.0.20170623
5. powerpc gdb-7.12
6. sparc gdb-7.12

Author: Chris Johns 2017-08-25T03:04:42.000Z

Original author: burrusse

DTC uses fnmatch and this function is not available on Windows in the MinGW environment. The use of this function makes it difficult to get this tool to work on native Windows.

A couple of solutions come to mind: 1. Fix the DTC tool. 2. Commit a DTB to the moxie project for the DTS and remove the dependency.

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: burrusse

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Chris Johns 2018-10-14T00:25:12.000Z

Original author: burrusse

- **Resolution** set to ~”fixed”
- **Status** changed from *reopened* to *closed*

Replying to **Chris Johns**:

DTC uses fnmatch and this function is not available on Windows in the MinGW environment. The use of this function makes it difficult to get this tool to work on native Windows. A couple of solutions come to mind: 1. Fix the DTC tool. 2. Commit a DTB to the moxie project for the DTS and remove the dependency.

I will not fixing DTC on Windows. A new ticket can be opened if this is needed.

Author: Amar Takhar 2024-04-25T20:45:41.687Z

changed the description

4.2.1.217 2968 - newlib inttypes.h is missing some methods

Id	2968
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2017-04-03T14:06:21.000Z
Updated	2024-04-25T20:45:35.847Z
Milestone	5.1
Labels	posix::compliance, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2968
Merges	0

inttypes.h defines some methods which are not present but required for POSIX compliance. They are also included in the FACE General Purpose Profile.

```
intmax_t imaxabs(intmax_t); imaxdiv_t imaxdiv(intmax_t, intmax_t); intmax_t str-
toimax(const char *restrict, char **restrict, int); uintmax_t strtoumax(const char *restrict, char
**restrict, int); intmax_t wctoimax(const wchar_t *restrict, wchar_t **restrict, int); uintmax_t
wcstoumax(const wchar_t *restrict, wchar_t **restrict, int);
```

This was originally discussed here (<https://sourceware.org/ml/newlib/2013/msg00626.html>) with follow up discussion here (<https://sourceware.org/ml/newlib/2017/msg00240.html>).

The consensus seems to be that the methods as currently implemented in FreeBSD address the concerns raised in that email thread.

This ticket is complete when:

- source for these methods is merged into newlib
- methods are documented in newlib
- RSB is updated appropriately
- tests are added to RTEMS
- RTEMS POSIX Compliance spreadsheet (<https://goo.gl/AXrnxO>) is updated

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-06-08T07:51:50.000Z

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Joel Sherrill 2018-03-26T17:18:01.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

All of these methods are now present.

Author: Joel Sherrill 2018-03-26T17:18:20.000Z

- **Milestone** changed from %"Indefinite" to %"5.1"

Author: Amar Takhar 2024-04-25T20:45:35.901Z

changed the description

4.2.1.218 2963 - Add a testsuite top level configuration file that is common to all tests.

Id	2963
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-03-31T04:49:26.000Z
Updated	2024-04-25T20:45:33.843Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::testing, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2963
Merges	0

Add the file testsuites/rtems.tcfg to hold test states common to all BSPs. This lets us globally set a test state.

For example fileio is user-input.

Note, user-input will be added a test state to test this file.

Author: Trac Migrate 2017-03-31T04:59:42.000Z

I am not very fond of global files. The tests should be self contained. Maybe add some special comments to the test sources like in the GCC test suite?

```
1 /* { dg-options "-mthumb -Os" } */
2 /* { dg-require-effective-target arm_thumb2_ok } */
3 /* { dg-final { scan-assembler "ands" } } */
```

Author: Chris Johns 2017-03-31T06:26:42.000Z

I have never looked at the gcc testsuite and from what I have read about it was not flattering.

I do not think adding 500+ files to state fileio is a user-input test and will never complete is not good. Maybe global is not a great word, maybe common is better. We need accurate data to determine the results of tests.

It is similar to the work you have been doing to have a common linkercmd file where ever possible. It is the same thing or are you saying we should create a separate linker command file for every bsp as well? ;)

Look at the results with a work in progress rtems-test for erc32-run:

```
1 Passed:      546
2 Failed:      1
3 User Input:   4
4 Expected Fail: 0
```

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```

5 Indeterminate: 0
6 Timeout: 6
7 Invalid: 1
8 -----
9 Total: 558
10
11 Failures:
12 spcontext01.exe
13 User Input:
14 fileio.exe
15 top.exe
16 termios.exe
17 monitor.exe
18 Timeouts:
19 jffs2_fssymlink.exe
20 mrfs_fserror.exe
21 dhrystone.exe
22 fsdosfsformat01.exe
23 imfs_fsrdr.exe
24 whetstone.exe
25 Invalid:
26 minimum.exe
27 Average test time: 0:00:00.481800
28 Testing time : 0:04:28.844749

```

Note, the benchmark tests have broken parallel testing because of the time they now take.

Author: Trac Migrate 2017-03-31T06:32:12.000Z

Replying to [Chris Johns](#):

I have never looked at the gcc testsuite and from what I have read about it was not flattering.

My comment was not about the GCC testsuite in general.

I do not think adding 500+ files to state fileio is a user-input test and will never complete is not good. Maybe global is not a great word, maybe common is better. We need accurate data to determine the results of tests.

Why 500+ files, its just one:

```

1 diff --git a/testsuites/samples/fileio/init.c b/
  ↪ testsuites/samples/fileio/init.c
2 index 07ec2c6..68942e8 100644
3 --- a/testsuites/samples/fileio/init.c
4 +++ b/testsuites/samples/fileio/init.c
5 @@ -34,6 +34,7 @@
6  #include <rtems/nvdisk-sram.h>

```

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```

7  #include <rtems/shell.h>
8
9  +/* FANCY TEST COMMENT: user-input */
10 const char rtems_test_name[] = "FILE I/O";
11
12 #if FILEIO_BUILD
13
14
15
16
17 It is similar to the work you have been doing to_
   ↳ have a common linkercmd file where ever possible._
   ↳ It is the same thing or are you saying we should_
   ↳ create a separate linker command file for every_
   ↳ bsp as well? ;)
18 Look at the results with a work in progress ``rtems-
   ↳ test`` for ``erc32-run``:
19 {{{
20 Passed:          546
21 Failed:           1
22 User Input:       4
23 Expected Fail:    0
24 Indeterminate:    0
25 Timeout:          6
26 Invalid:          1
27 -----
28 Total:            558
29 Failures:
30 spcontext01.exe
31 User Input:
32 fileio.exe
33 top.exe
34 termios.exe
35 monitor.exe
36 Timeouts:
37 jffs2_fssymlink.exe
38 mrfs_fserror.exe
39 dhrystone.exe
40 fsdosfsformat01.exe
41 imfs_fsrdr.exe
42 whetstone.exe
43 Invalid:
44 minimum.exe
45 Average test time: 0:00:00.481800
46 Testing time      : 0:04:28.844749
47 }}}
48 Note, the benchmark tests have broken parallel_
   ↳ testing because of the time they now take.
49

```

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50 On my host these benchmark tests did run less than 3 minutes.

Author: Chris Johns 2017-03-31T07:05:39.000Z

Replying to [Sebastian Huber](#):

Replying to [Chris Johns](#):

I do not think adding 500+ files to state fileio is a user-input test and will never complete is not good. Maybe global is not a great word, maybe common is better. We need accurate data to determine the results of tests.

```
Why 500+ files, its just one: {{{ diff -git
a/testsuites/samples/fileio/init.c b/testsuites/samples/fileio/init.c
index 07ec2c6..68942e8 100644 --- a/testsuites/samples/fileio/init.c
+++ b/testsuites/samples/fileio/init.c @@ -34,6 +34,7 @@
+/* FANCY TEST COMMENT: user-input */ const char
rtems_test_name[] = "FILE I/O";
}}}
```

Sure I thought you were talking about tcfg files. There is no standard for this plus and how does the comment get to rtems-test.

I am leveraging the expected-fail mechanism to handle this. That needs to be external to test.

All I am doing is collecting these things into a common place and a common framework.

It is similar to the work you have been doing to have a common linkercmd file where ever possible. It is the same thing or are you saying we should create a separate linker command file for every bsp as well? ;) Look at the results with a work in progress rtems-test for erc32-run: {{{ Passed: 546 Failed: 1 User Input: 4 Expected Fail: 0 Indeterminate: 0 Timeout: 6 Invalid: 1 _____ Total: 558 Failures: spcontext01.exe User Input: fileio.exe top.exe termios.exe monitor.exe Timeouts: jffs2_fssymlink.exe mrfs_ferror.exe dhrystone.exe fsdosfsformat01.exe imfs_fsrdr.exe whetstone.exe Invalid: minimum.exe Average test time: 0:00:00.481800 Testing time : 0:04:28.844749 }}} Note, the benchmark tests have broken parallel testing because of the time they now take.

On my host these benchmark tests did run less than 3 minutes.

All cores fully loaded?

Author: Chris Johns 2017-04-03T22:11:13.000Z

- **Owner** set to @chrisj

Author: Trac Migrate 2017-04-03T23:52:54.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"258bda306ba25741624488d24a2785c055a9fab0/rtems" 258bda3/rtems]:

```

1 testsuite: Add a common test configuration. Fix configure.ac and
  ↳ Makefile.am errors.
2
3 - Add a top level test configuration file for test states that are
  ↳ common
4 to all BSPs. This saves adding a test configuration (tcfg) file for
5 every BSP.
6
7 - Add the test states 'user-input' and 'benchmark'. This
8 lets 'rtems-test' stop the test rather than waiting for a timeout or
9 letting a benchmark run without the user asking for it to run.
10
11 - Implement rtems-test-check in Python to make it faster. The shell
  ↳ script
12 had grown to a point it was noticeably slowing the build down.
13
14 - Fix the configure.ac and Makefile.am files for a number of the
15 test directories. The files are difficult to keep in sync with the
16 number of tests and mistakes can happen such as tests being left
17 out of the build. The test fsrofs01 is an example. Also there was
18 a mix of SUBDIRS and _SUBDIRS being used and only _SUBDIRS should be
19 used.
20
21 - Fix the test fsrofs01 so it compiles.
22
23 Closes #2963.
```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:33.880Z

changed the description

4.2.1.219 2962 - Set test configurations to reflect test results.

Id	2962
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2017-03-31T04:43:37.000Z
Updated	2024-04-25T20:45:33.320Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::testing, tickettype::defect, tool::test, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2962
Merges	0

Tests can be set to the result we expect such as expected-fail, user-input and indeterminate as well as excluded so we can maintain accurate results for the testsuite.

This ticket covers setting of the correct state for all tests for tier 1 BSPs. Please add an “Updates #” for this ticket to any related commits and once done we can close this ticket.

Note: I have add a top level test configuration file called testsuites/rtems.tcfg that lets us specify a test configuration for all BSPs.

Author: Joel Sherrill 2017-10-12T02:47:16.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Joel Sherrill 2018-10-14T01:10:08.000Z

Get Chris to write GCI instructions.

Author: Chris Johns 2018-10-14T22:11:26.000Z

1. Run the test suite for a bsp.
2. Get the list of failures.
3. Update or create a bsp/<arch>/<bsp>/config/<bsp>-testsuite.tcfg adding a line for each failure we **expect** to get with:


```
1 expected: <test-name>
```

Author: Chris Johns 2018-11-15T22:58:12.000Z

We need to document in the tests which tests are known to fail for specific archs or BSPs. It is important for us to be able to tell a user this is what we have baselined in a release.

Author: Chris Johns 2018-11-22T02:09:42.000Z

The loopback test needs to be set to USER-INPUT to avoid a timeout when testing the samples with a network build.

Author: Chris Johns 2020-04-28T05:33:14.000Z

Looking at the build reports I see a differences with the erc32 BSP between no debug and RTEMS_DEBUG. Should the headwalk test like it does?

<https://lists.rtems.org/pipermail/build/2020-April/014203.html>

Author: Trac Migrate 2020-04-29T04:58:33.000Z

In [changeset:"a8f0d941c3ec26eb972ab3a98a9d383cd6726e2a/rtems" a8f0d94/rtems]:

```
1 libtests/heapwalk: Fix for RTEMS_DEBUG
2
3 Update #2962.
```

Author: Trac Migrate 2020-05-06T21:00:33.000Z

In [changeset:"89f57a665ff8a3fa69fd36639ca8043205e90316/rtems" 89f57a66/rtems]:

```
1 testsuite: Add the BSP architecture to the include path
2
3 Updates #2962
```

Author: Trac Migrate 2020-05-06T21:00:37.000Z

In [changeset:"7d002474975bae67a578e4a5afd474612d607d06/rtems" 7d00247/rtems]:

```

1 testsuite: Add expected-fail to erc32, leon2, and leon3 BSPs
2
3 Updates #2962

```

Author: Trac Migrate 2020-05-06T21:00:44.000Z

In [changeset:"1b1755d9a662e0436abc250082643debae3e5340/rtems" 1b1755d9/rtems]:

```

1 testsuite: Add expected-fail to psim
2
3 Updates #2962

```

Author: Trac Migrate 2020-05-06T21:00:48.000Z

In [changeset:"7e3af673493485ce40ee6eab61ddcc68918a02f6/rtems" 7e3af67/rtems]:

```

1 testsuite: Add expected-fail to xilinx's zedboard, a9_qemu, zc702 and ↵
↵ zc706
2
3 Updates #2962

```

Author: Trac Migrate 2020-05-06T21:00:51.000Z

In [changeset:"084ea83a9be60ea14a9e59bdcd7eda086f9b8725/rtems" 084ea83/rtems]:

```

1 testsuite: Add expected-fail to beagleboneblack
2
3 Updates #2962

```

Author: Trac Migrate 2020-06-05T04:32:03.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

The failures on powerpc/psim are due to [#3982](#). For the psxfenv01 failures see [#3996](#), [#3997](#), and [#3998](#). For arm/beagleboneblack see [#3999](#). For the arm/xilinx-zynq see [#4000](#). For dl06 on arm see [#4001](#).

All test failures which need to be looked at have now tickets.

Author: Amar Takhar 2024-04-25T20:45:33.363Z

changed the description

4.2.1.220 2959 - arm/libdl: C++ exception index tables may not be ordered correctly

Id	2959
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-03-29T06:32:17.000Z
Updated	2024-04-25T20:45:32.885Z
Milestone	5.1
Labels	cpukit::dl, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2959
Merges	0

The ARM EXIDX sections have the SHF_LINK_ORDER flag set and this is not honored by libdl which means the section order in the ELF file needs to be the correct order of the functions in the address map.

Add support to libdl to follow the link-to order.

Author: Trac Migrate 2017-03-31T02:57:18.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”bba48d90bcd343f62b368a510b67bbdb51fb6f0c/rtems”
bba48d9/rtems]:

```
1 libdl: Support link ordered loading of ELF sections.
2
3 The ARM C++ exception ABI uses an address ordered index table to
4 locate the correct frame data and this requires the EXIDX sections are
5 loaded in the order the order the matching text is loaded.
6
7 The EXIDX sections set the SHF_LINK_ORDER flag and link field. This
8 ↪patch
9 adds support to load those flagged sections in the linked-to section
10 order.
11
12 Updates #2955.
13 Closes #2959
```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:32.922Z

changed the description

4.2.1.221 2951 - Error path in rtems-gcc-6.3.0-newlib-2.5.0.20170228-1.cfg

Id	2951
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-03-24T14:54:37.000Z
Updated	2024-04-25T20:45:32.365Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::build, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2951
Merges	0

Original author: alexgerbor

newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff in path <https://git.rtems.org/rtems-tools/plain/tools/4.12/newlib/arm/> not found

In rtems-gcc-6.3.0-newlib-2.5.0.20170228-1.cfg there error: %patch add newlib %{rtems_newlib_patches}/arm/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff

Log from execute /source-builder/sb-set-builder:

```
download:      (full)   https://git.rtems.org/rtems-tools/plain/tools/4.12/newlib/arm/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff
-> patches/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff
download:      https://git.rtems.org/rtems-tools/plain/tools/4.12/newlib/arm/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff
-> patches/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff
download:      https://git.rtems.org/rtems-tools/plain/tools/4.12/newlib/arm/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff: error: HTTP Error 404: Not found
error: downloading https://git.rtems.org/rtems-tools/plain/tools/4.12/newlib/arm/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff: all paths have failed, giving up
```

Author: Trac Migrate 2017-03-26T03:49:43.000Z

Original author: alexgerbor

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"b47a811955e427f945f8958de87158e9990dc7da/rtems-source-builder" b47a811/rtems-source-builder]:

```
1 4.11/arm: Fix the path to the sqrt patch.
2
3 Use the upstream patch sent to the newlib mailing list.
4
5 Closes #2951.
```

Author: Trac Migrate 2017-05-11T07:31:02.000Z

Original author: alexgerbor

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: alexgerbor

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:32.494Z

changed the description

4.2.1.222 2935 - Termios task driven mode not compatible with SMP

Id	2935
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-03-16T10:14:36.000Z
Updated	2024-04-25T20:45:31.929Z
Milestone	5.1
Labels	priority::normal, resolution::wontfix, rtems::score, smp, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2935
Merges	0

Original author: martinaberg

When the Termios task driven functioning mode is used, `rtems_termios_open_tty()` calls `rtems_task_create()` with `RTEMS_NO_PREEMPT` in the initial task mode parameter. `RTEMS_NO_PREEMPT` is not supported on SMP.

`rtems_task_create()` returns `RTEMS_UNSATISFIED` in this SMP scenario and Termios ends up in `rtems_fatal_error_occurred()`.

Termios starts the RX and TX tasks successfully on SMP if `RTEMS_NO_PREEMPT` is removed from the initial task modes of these tasks. However, I suspect there may be assumptions on the `NO_PREEMPT` mode for the RX and TX tasks in other parts of Termios.

Author: Trac Migrate 2017-03-16T14:39:51.000Z

Original author: martinaberg

The task driven mode in general needs a review and possibly a re-implementation. A good alternative is the `TERMIOS_IRQ_SERVER_DRIVEN` mode in case the interrupt server is available.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

Original author: martinaberg

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-06-08T07:42:07.000Z

Original author: martinaberg

In [changeset:"f7a2dcf1cc4c6ff21fe58bb77832794cb8b17b3f/rtems-docs" f7a2dcf/rtems-docs]:

```
1 bsp-howto: Warn about TERMIOS_TASK_DRIVEN
2
3 Update #2935.
```

Author: Trac Migrate 2017-06-08T07:43:12.000Z

Original author: martinaberg

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

We should keep the task driven mode as is. Maybe remove it in the future.

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: martinaberg

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:31.969Z

changed the description

4.2.1.223 2859 - Implement POSIX Shared Memory Objects

Id	2859
State	closed
Type	ISSUE
Author	Gedare Bloom
Assignee(s)	Gedare Bloom
Created	2017-01-13T16:47:41.000Z
Updated	2024-04-25T20:45:13.659Z
Milestone	5.1
Labels	api::posix, posix::compliance, priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2859
Merges	0

POSIX Shared Memory is a widely used API for inter-process communication. The functions in the API include: * `shm_open` * `ftruncate` * `mmap` * `munmap` * `shm_unlink` * `close` * `fstat` * `fchown` * `fchmod`

Author: Gedare Bloom 2017-01-13T17:41:37.000Z

ba77628250ae7158db363fc0d7886ebd43e9cb69

Author: Trac Migrate 2017-01-25T12:33:07.000Z

In changeset 7cb7454f9321f9d68ad79c7bc21458755a4a6b46:

psxtests: Relax shared memory tests There is currently no proper
mmap() implementation. Update #2859.

Author: Trac Migrate 2017-05-05T15:26:56.000Z

In [changeset:"87de70a2984cece87db94f4b445589c4e24e5c77/rtems" 87de70a2/rtems]:

```
1 posix/mman: add mmap support for shm objects
2
3 Update #2859.
```

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-07-14T20:04:27.000Z

In [changeset:"1549beb15b8b3d96179ca7d1f95ae845b0462e82/rtems" 1549beb/rtems]:

1 psxtests: Add a mmap dedicated test case

2

3 Updates [#2859](#)

Author: Trac Migrate 2017-07-18T12:22:46.000Z

Test psxmmap01 fails with RTEMS_DEBUG:

```

1 *** BEGIN OF TEST PSX MMAP01 ***
2 Init: mmap - map at zero
3
4 Breakpoint 1, __assert_func (file=file@entry=0x2027fc8 "../..cpukit/..
  ↳ ../..erc32/lib/include/rtems/score/chainimpl.h", line=line@entry=686,
  ↳ func=func@entry=0x2029198 <__func__.2359> "_Chain_Append_unprotected
  ↳ ", failedexpr=failedexpr@entry=0x20286e0 "_Chain_Is_node_off_chain(
  ↳ the_node)") at ../..../rtems/c/src/..../cpukit/
  ↳ libcsupport/src/__assert.c:37
5 37 {
6 (gdb) bt
7 #0 __assert_func (file=file@entry=0x2027fc8 "../..cpukit/..../..
  ↳ ..erc32/lib/include/rtems/score/chainimpl.h", line=line@entry=686,
  ↳ func=func@entry=0x2029198 <__func__.2359> "_Chain_Append_unprotected",
  ↳ failedexpr=failedexpr@entry=0x20286e0 "_Chain_Is_node_off_chain( the_
  ↳ node)") at ../..../rtems/c/src/..../cpukit/libcsupport/
  ↳ src/__assert.c:37
8 #1 0x2020d688 in _Chain_Append_unprotected (the_node=0x2039450, the_
  ↳ chain=0x202f650 <mmap_mappings>) at ../..cpukit/..../..erc32/lib/
  ↳ include/rtems/score/chainimpl.h:686
9 #2 0x2020d720 in _Chain_Append_unprotected (the_node=0x2039450, the_
  ↳ chain=0x202f650 <mmap_mappings>) at ../..../rtems/c/src/..
  ↳ ../cpukit/sapi/src/chainprotected.c:74
10 #3 rtems_chain_append (chain=chain@entry=0x202f650 <mmap_mappings>,
  ↳ node=node@entry=0x2039450) at ../..../rtems/c/src/..../
  ↳ cpukit/sapi/src/chainprotected.c:72
11 #4 0x2020a634 in mmap (addr=addr@entry=0xfffff000, len=len@entry=4096,
  ↳ prot=prot@entry=7, flags=<optimized out>, flags@entry=4114,
  ↳ fildes=fildes@entry=-1, off=<optimized out>) at ../..../rtems/c/src/..
  ↳ ../cpukit/posix/src/mmap.c:373
12 #5 0x202014cc in mmap_map_at_zero () at ../..../rtems/c/
  ↳ src/..../testsuites/psxtests/psxmmap01/init.c:100
13 #6 POSIX_Init (argument=<optimized out>) at ../..../rtems/
  ↳ c/src/..../testsuites/psxtests/psxmmap01/init.c:324
14 #7 0x20201be58 in _Thread_Entry_adaptor_pointer (executing=0x20318d8)
  ↳ at ../..../rtems/c/src/..../cpukit/score/src/
  ↳ threadentryadaptorpointer.c:25
15 #8 0x20201bed4 in _Thread_Handler () at ../..../rtems/c/src/..
  ↳ ../cpukit/score/src/threadhandler.c:88
16 #9 0x20201be6c in _Thread_Handler () at ../..../rtems/c/src/..
  ↳ ../cpukit/score/src/threadhandler.c:38

```

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```

17 (gdb) frame 3
18 #3 rtems_chain_append (chain=chain@entry=0x202f650 <mmap_mappings>,
    ↪ node=node@entry=0x2039450) at ../../../../../../rtems/c/src/../../../../
    ↪ cpukit/sapi/src/chainprotected.c:72
19 72     _Chain_Append_unprotected( chain, node );
20 (gdb) p *node
21 $1 = {
22   next = 0x202f654 <mmap_mappings+4>,
23   previous = 0x202f650 <mmap_mappings>
24 }

```

Author: Trac Migrate 2017-07-20T05:30:57.000Z

In [changeset:"bb01a36dfb59d3cdccd33178d2b6be7f479e3d87/rtems"bb01a36/rtems]:

```

1 Fixed issue with searching mapped addresses
2
3 The loop that checks if the current address is already mapped uses
4 the same local variable for the chanin node as the newly allocated
5 chain node so the allocated chain node gets over written.
6
7 Added a new local variable for the loop that checks the address
8
9 Updates #2859.

```

Author: Trac Migrate 2017-07-20T05:31:10.000Z

In [changeset:"b965f461a8d2627fafb0166ed4ef0351ad597551/rtems"b965f461/rtems]:

```

1 posix: Use unprotected chain operations
2
3 Operarations are already protected by mmap_mappings_lock.
4
5 Updates #2859.

```

Author: Trac Migrate 2017-07-20T05:33:50.000Z

The mmap_mappings_lock attributes don't create a mutex:

```

(RTEMS_PRIORITY      | RTEMS_SIMPLE_BINARY_SEMAPHORE      |
RTEMS_NO_INHERIT_PRIORITY | RTEMS_NO_PRIORITY_CEILING |
RTEMS_LOCAL)

```

I suggest to use the libio mutex and keep the specialized lock/unlock functions. Mutex lock/unlock should not return a status code to simplify the error handling.

Author: Trac Migrate 2017-07-24T19:01:33.000Z

In [changeset:"b264998fa9ef2b048950ba81f3d1615c8f9a182d/rtems" b264998/rtems]:

```
1 posix: replace mmap mappings lock with libio lock
2
3 Use the libio mutex lock instead of the mmap mappings lock.
4
5 Updates #2859.
```

Author: Trac Migrate 2017-07-24T19:14:54.000Z

In [changeset:"c6d897e54489e061b25bdb08583b696421799cc2/rtems" c6d897e5/rtems]:

```
1 posix: fix warnings with mmap from heap/wkspce
2
3 Avoid void pointer arithmetic.
4
5 Updates #2859.
```

Author: Trac Migrate 2017-07-28T11:54:11.000Z

In [changeset:"77cbb2a4442aa9a1d0e175ed4f690f57930eaa70/rtems" 77cbb2a/rtems]:

```
1 psxtests/psxmmap01: Fix warning
2
3 Update #2859.
```

Author: Trac Migrate 2017-07-28T19:16:13.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"1ab6d59863c17bd62a76517d434092f68d4ff8f3/rtems-docs" 1ab6d59/rtems-docs]:

```
1 memory_management: update mmap, munmap, shm_open, shm_unlink
2
3 Close #2859.
```

Author: Gedare Bloom 2017-07-28T19:19:00.000Z

I consider this basically complete. Open new tickets against any bugs or added features.

Author: Trac Migrate 2017-09-14T05:03:21.000Z

In [changeset:"694e946dbd64c94343aeb289edd80a60759f7b26/rtems" 694e946/rtems]:

```
1 libio: Remove special-case reference count
2
3 The top-level IO library structures should contain no special-case data.
4
5 Update #2859.
```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:13.773Z

changed the description

4.2.1.224 2836 - Add posix_devctl()

Id	2836
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2016-12-09T16:37:30.000Z
Updated	2024-04-25T20:45:13.201Z
Milestone	5.1
Labels	posix::compliance, priority::normal, resolution::fixed, rtems::score, tick-ettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2836
Merges	0

The posix_devctl() method is defined in POSIX 1003.26 and required by the FACE POSIX profiles. The only use case that needs to be supported is FIONBIO on sockets per the FACE Technical Standard.

ioctl() is not a standardized method per POSIX and is not included in the FACE Profiles.

Making operations non-blocking can also be done with fcntl() but due to RTOS qualification concerns, fcntl() is not included in the more stringent FACE profiles. Specifically, it is not in the Safety Base profile which matches the RTEMS POSIX capabilities.

This requires adding the `<devctl.h>` file to newlib. That has been done. I am testing my implementation but a tool update will be needed before this can be pushed to the community. This is OK because we have other reasons to move to a new gcc and newlib version soon.

Author: Joel Sherrill 2016-12-09T16:39:09.000Z

- **Description** changed

```

1 The posix_devctl() method is defined in POSIX 1003.26 and required by
  ↳ the FACE POSIX profiles. The only use case that needs to be supported
  ↳ is FIONBIO on sockets per the FACE Technical Standard.
2
3 ioctl() is not a standardized method per POSIX and is not included in
  ↳ the FACE Profiles.
4
5 Making operations non-blocking can also be done with fcntl() but due to
  ↳ RTOS qualification concerns, fcntl() is not included in the more
  ↳ stringent FACE profiles. Specifically, it is not in the Safety Base
  ↳ profile which matches the RTEMS POSIX capabilities.
6 +
7 + This requires adding the <devctl.h> file to newlib. That has been
  ↳ done. I am testing my implementation but a tool update will be needed
  ↳ before this can be pushed to the community. This is OK because we
  ↳ have other reasons to move to a new gcc and newlib version soon.
```

Author: Joel Sherrill 2017-04-03T14:08:38.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

The code, tests, and documentation are merged.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:13.240Z

changed the description

4.2.1.225 2775 - ARM CP15 arm_cp15_set_translation_table_entries fails if TTB in read-only memory

Id	2775
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2016-08-09T03:32:58.000Z
Updated	2024-04-25T20:45:11.328Z
Milestone	5.1
Labels	arch:arm, library::libcpu, priority::normal, resolution::fixed, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2775
Merges	0

If the TTB is held in the text section and the section is set to read-only, and cached when booting no section change happen at run time because the table cannot be written too to change. The table cannot be changed unless the MMU is disabled.

I suggest the MMU be disabled, the table updated and then the MMU enabled.

Note, the issue only shows up on real hardware, qemu does not complain.

Author: Trac Migrate 2016-08-14T21:51:15.000Z

I think that disabling of MMU at runtime is highly problematic. You need to stop all parallel processes to ensure that all modifications held in cache are propagated to memory and then switch MMU off. If multiple CPUs are running (SMP) then there is almost no way hot to ensure fully synchronized case for at least some ARM architecture members. Coherency is maintained through MMU and guaranteed only for cache clean through VMA. The cache clean by level+set+way does not need to generate required snoop operations.

On the other hand, ARM architecture is prepared and operations are optimized for runtime page tables updates and switching and there are defined operations sequences to ensure correct page tables changes propagations in ARM architecture manuals. So I vote for this direction.

Author: Chris Johns 2016-08-14T22:38:09.000Z

I agree it is problematic for a running system. I had not seen the note in your git commit about adding the MMU tables section. I have a patch which add this to the default set. It removes the current issue we are facing.

Author: Trac Migrate 2016-08-14T23:23:05.000Z

- **Owner** set to Chris Johns <chrisj@rtems.org>
- **Resolution** set to ~"fixed"

- **Status** changed from *new* to *closed*

In changeset 01aa1ba34a1696736ed5200ffa1d4be9963d99b3:

libbsp/arm: Add the TTB table to the default MMU set up as read/write. This lets the table be changed at runtime for dynamic loading and debugger support. Closes [#2775](#).

Author: Trac Migrate 2016-08-17T07:34:22.000Z

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

This change breaks a lot of ARM BSPs since `bsp_translation_table_end` is not defined.

Author: Chris Johns 2016-08-17T07:41:49.000Z

If you have a list I can add them to <https://git.rtems.org/rtems-tools/tree/tester/rtems/rtems-bsps.ini> and then they can be built.

Thanks.

Author: Trac Migrate 2016-08-17T08:18:38.000Z

You can use `"/path/to/rtems/configure --target=arm-rtems4.12 --enable-maintainer-mode --enable-tests=samples"` to build all ARM BSPs.

Author: Trac Migrate 2016-08-23T01:14:16.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

In changeset 89a319a0f8bb9374e5a23358b266db3745268a3a:

libbsp/arm: Fix ARM BSPs missing the `bsp_translation_table_end` symbol. Closes [#2775](#).

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:11.368Z

changed the description

4.2.1.226 2734 - pthread_setschedprio() is missing

Id	2734
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-06-13T06:01:06.000Z
Updated	2024-04-25T20:45:10.798Z
Milestone	5.1
Labels	api::posix, posix::compliance, priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::4.10
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2734
Merges	0

Original author: sebastian.huber

See also

http://pubs.opengroup.org/onlinepubs/9699919799/functions/pthread_setschedprio.html

and

http://pubs.opengroup.org/onlinepubs/9699919799/functions/V2_chap02.html#tag_15_08_04_01

In particular the distinction to pthread_setschedparam() (SCHED_FIFO, item 7.).

Prototype is defined in Newlib provide <pthread.h>.

Author: Trac Migrate 2016-06-13T13:38:29.000Z

Original author: sebastian.huber

- **Owner** set to Sebastian Huber <sebastian.huber@embedded-brains.de>
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In changeset 0c34dbf341095f93a712bbe6d024c8c1d975b6f5:

posix: Add pthread_setschedprio() Close [#2734](#).

Author: Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”4.12.0”

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:10.912Z

changed the description

4.2.1.227 2732 - Add clock_nanosleep()

Id	2732
State	closed
Type	ISSUE
Author	Gedare Bloom
Assignee(s)	Gedare Bloom
Created	2016-06-09T15:36:47.000Z
Updated	2024-04-25T20:45:10.261Z
Milestone	5.1
Labels	api::posix, posix, priority::normal, resolution::fixed, rtems::score, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2732
Merges	0

The `clock_nanosleep` function is provided to enable specifying the clock source (`CLOCK_REALTIME` or `CLOCK_MONOTONIC`) and to control whether or not to use an absolute or relative reference point via `TIMER_ABSTIME` flag.

See also: http://pubs.opengroup.org/onlinepubs/009695399/functions/clock_nanosleep.html

Author: Trac Migrate 2016-07-25T16:45:22.000Z

In changeset e0f17fcf6f06d3383cd389d809ee4e3d6e0fb14d:

posix: fix `clock_nanosleep` and `nanosleep` clock use Sleeping with `CLOCK_REALTIME` should use the `WATCHDOG_ABSOLUTE` clock discipline for the threadq so that the timeout interval may change in case the clock source changes. Similarly, `CLOCK_MONOTONIC` uses the `WATCHDOG_RELATIVE` threadq that will only wakeup the thread after the requested count of ticks elapse. updates [#2732](#)

Author: Trac Migrate 2016-07-26T18:17:57.000Z

In changeset 39d97ab78cfcc37eb8b1e7d9f9717f51b249155b:

cpukit: refactor `nanosleep` and use 64-bit timeout for threadq * Fixes a bug with elapsed time calculations misusing absolute time arguments in `nanosleep_helper` by passing the requested relative interval. * Fixes a bug with truncation of absolute timeouts by passing the full 64-bit value

to Thread_queue_Enqueue. * Share yield logic between nanosleep and clock_nanosleep. updates [#2732](#)

Author: Trac Migrate 2016-07-29T17:14:45.000Z

In changeset 842005e432136953d670e39cedc2d665ea949e7b:

posix: nanosleep: optimize away a time conversion updates [#2732](#)

Author: Trac Migrate 2016-08-10T16:10:21.000Z

In changeset 709594f0fb29d4f860b99cda264ea3e74c635a72:

posix: nanosleep: adjust elapsed time calculation Use clock_gettime before and after sleep to calculate the time spent asleep, and the amount of time remaining. updates [#2732](#)

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Gedare Bloom 2017-06-30T13:27:37.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:10.364Z

changed the description

4.2.1.228 2649 - RSB remove 4.11, 4.10 and 4.9 from the master branch.

Id	2649
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2016-03-14T23:05:31.000Z
Updated	2024-04-25T20:45:06.610Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2649
Merges	0

Having 4.11 on master is confusing users as they build 4.11 tool on master and there may be issues in 4.11 configurations fixed on the 4.11 branch.

Leave 4.9 and 4.10 until they are branched off master. We will make these branches once 4.12 is stable again.

Author: Trac Migrate 2016-03-16T05:00:10.000Z

In changeset e7649747c8385a554a49624542f50c6b2f0e42f5:

4.11: Remove from master. Updates [#2649](#).

Author: Chris Johns 2017-08-14T00:56:50.000Z

- **Milestone** set to %”4.12.0”
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Amar Takhar 2024-04-25T20:45:06.649Z

changed the description

4.2.1.229 2608 - POSIX Condition Variables Clock Attribute Support

Id	2608
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Gedare Bloom
Created	2016-02-22T14:20:08.000Z
Updated	2024-04-25T20:45:03.922Z
Milestone	5.1
Labels	api::posix, posix::compliance, priority::normal, resolution::fixed, ticket-type::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2608
Merges	0

I am beginning to add support for the clock attribute to POSIX condition variables.

http://pubs.opengroup.org/onlinepubs/9699919799/functions/pthread_condattr_getclock.html

Since the clock can't be a CPU time clock, that leaves CLOCK_MONOTONIC and CLOCK_REALTIME. The thread queue is based on CLOCK_MONOTONIC and does not have an option to use CLOCK_REALTIME. Threads and timers waiting on CLOCK_REALTIME should be impacted by time of day changes.

https://docs.google.com/document/d/1GsGer0t84p-nUfZFim4Ty0LTDYNhgKBvIwip_gLQjTY/edit?usp=sharing is a Google doc with my notes so far in it on POSIX clocks. I will move it to the Wiki as it turns into something more concrete than notes and reflects plans/code.

So the first issue is how best to alter the thread queue to support using either clock source? And what does that do to the current ticks based API since you proposed different time representations for the ticks (relative/monotonic) and seconds (absolute/realtime) structures?

Author: Trac Migrate 2016-06-16T14:04:39.000Z

In changeset 6131b849081335e101f92b4a99e01572153d44f5:

Add `pthread_condattr_getclock()` and `pthread_condattr_setclock()` updates [#2608](#).

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Joel Sherrill 2017-10-11T23:18:54.000Z

- **Owner** set to @gedare
- **Status** changed from *new* to *assigned*

Gedare.. I checked and think this is implemented and I thought you did the final part of the work. If you concur it is implemented, please close.

Author: Trac Migrate 2017-10-12T05:35:35.000Z

See also [#3182](#).

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Gedare Bloom 2017-12-05T17:04:20.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

Author: Amar Takhar 2024-04-25T20:45:04.030Z

changed the description

4.2.1.230 2562 - RSB Docs Quick Start version number

Id	2562
State	closed
Type	ISSUE
Author	Gedare Bloom
Assignee(s)	Gedare Bloom
Created	2016-02-06T12:17:37.000Z
Updated	2024-04-25T20:45:03.459Z
Milestone	5.1
Labels	doc, priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2562
Merges	0

The quick start in the RSB docs only refers to version 4.11 in the examples. It may be worth a brief paragraph about RTEMS version numbers here to help orient new users since, if they follow these directions, they will not be able to build the master.

- [0001-Added-version-nembers-guidelines-and-output-to-comma.patch](#)
- [0001-Closes-Ticket-2562.patch](#)
- [0001-version-number-notation-Ticket-2562-GCI-2018.patch](#)

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Chris Johns 2018-10-14T00:50:11.000Z

- **Owner** set to @gedare
- **Status** changed from *new* to *assigned*

That would be nice to have. Please update once Joel pushes his changes to the Quick Start. Thanks.

Author: Trac Migrate 2018-11-18T14:04:04.000Z

I generalized the release version of RTEMS with "urversion" in rtems-docs/rsb and rtems-docs/user ,and specified a paragraph regarding the same below the commands. I also made a table in the Quick Start and rsb/project-sets page which displays the released versions and their status. here is the details of the table

release notes	status
5	development
4.11	current release
4.10	previous release

here is what the note says

"In the above commands and all commands on this page, **urversion** gives the version of RTEMS you are building or want to build. Replace it with reference to release version table on *projects sets* page ."

The patch with all changes made has been added to the attachments

Author: Trac Migrate 2018-11-18T14:21:31.000Z

- **Attachment** [0001-version-number-notation-Ticket-2562-GCI-2018.patch](#) added

Author: Chris Johns 2018-11-18T21:36:07.000Z

The user manual is for a single release. I think it would be confusing to mention others releases or to make the manual appear suitable for other releases. For example the manual has command lines for tools which vary between releases and so it will not be correct for at least one release.

May I suggest you run the commands listed and update the output for RTEMS 5.

Author: Trac Migrate 2018-11-21T08:59:13.000Z

I have added a paragraph about version numbers in the quick start and updated the outputs of the commands at quick start I am unable to give the patch file because of spam message, please help me with this.

Author: Trac Migrate 2018-11-21T17:00:26.000Z

- **Attachment** [0001-Added-version-numbers-guidelines-and-output-to-comma.patch](#) added

New patch

Author: Trac Migrate 2018-11-21T17:43:30.000Z

- **Attachment** [0001-Closes-Ticket-2562.patch](#) added

docs: add version number guidelines and quick start output , this patch closes this ticket.

Author: Chris Johns 2019-12-13T15:36:10.000Z

Is this in the documentation? I cannot see it in the user of eng manuals.

Author: Trac Migrate 2020-04-02T15:36:38.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [\[changeset:"7a0834dc3877ff9d8dd30fd4e6fcb97fad1b51df/rtems-docs"7a0834d/rtems-docs\]](#):

```
1 start/user: describe version numbers and releases
2
3 Closes #2562.
```

Author: Amar Takhar 2024-04-25T20:45:03.502Z

changed the description

4.2.1.231 2515 - i386 score/libcpu API Layering Violation

Id	2515
State	closed
Type	ISSUE
Author	Gedare Bloom
Assignee(s)	Gedare Bloom
Created	2016-01-08T18:06:20.000Z
Updated	2024-04-25T20:44:58.591Z
Milestone	5.1
Labels	arch:i386, priority::normal, resolution::fixed, tickettype::defect, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2515
Merges	0

The file libcpu/i386/cpu.h provides functions referenced in rtems/score/i386.h Relatedly, libcpu/i386/cpu.h is the only other consumer than score/cpu.h of the score/interrupts.h. The libcpu/i386/cpu.h should be refactored into rtems/score/i386.h, which could also then subsume rtems/score/interrupts.h.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Gedare Bloom 2017-06-30T13:26:04.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Fixed by 328bd350aa40bd6aff923cd2efd3c14d0c8e0ec4

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:44:58.626Z

changed the description

4.2.1.232 2513 - Remove m68k/idp BSP

Id	2513
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2016-01-06T20:09:16.000Z
Updated	2024-04-25T20:44:58.158Z
Milestone	5.1
Labels	arch:m68k, bsp, priority::normal, resolution::fixed, tickettype::defect, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2513
Merges	0

Remove the m68k/idp BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP

Author: Trac Migrate 2016-02-26T15:56:52.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

Closing since it is already removed by f2ab5bc5943e1817540804117c4626151759681c.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Amar Takhar 2024-04-25T20:44:58.200Z

changed the description

4.2.1.233 2458 - Remove powerpc/score603e BSP

Id	2458
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2015-11-03T20:06:06.000Z
Updated	2024-04-25T20:44:55.483Z
Milestone	5.1
Labels	arch:powerpc, bsp, priority::normal, resolution::fixed, ticket-type::enhancement, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2458
Merges	0

Remove the powerpc/score603e BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP

Rationale: AFAIK this BSP was only used on a program supported by OAR. That program is no longer in active development and is completely frozen. If that situation changes, the BSP can be resurrected. It was introduced in 1999 and has not has a modification other than general maintenance in the last six years.

- [0001-powerpc-score603e-Remove-obselete.patch](#)
- [0001-rtems-bit_rtems-Remove-reference-to-score603e.patch](#)

Author: Trac Migrate 2015-12-08T22:56:27.000Z

- **Attachment** [0001-powerpc-score603e-Remove-obselete.patch](#) added

Author: Trac Migrate 2015-12-08T23:06:36.000Z

- **Attachment** [0001-rtems-bit_rtems-Remove-reference-to-score603e.patch](#) added

Author: Trac Migrate 2015-12-09T02:17:15.000Z

In changeset 999529516a32ae73f62c887370540d9574cdcecd:
powerpc/score603e: Remove (obselete). Updates [#2458](#).

Author: Trac Migrate 2015-12-09T02:17:51.000Z

- **Owner** set to Ralph Holmes <ralph@ybdn.com>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 94e40137bed8b40459d3eb26043e87bc5b12ec03:

rtems/bit_rtems: Remove reference to score603e. Closes [#2458](#).

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:44:55.530Z

changed the description

4.2.1.234 2457 - Remove powerpc/ep1a BSP

Id	2457
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2015-11-03T20:06:04.000Z
Updated	2024-04-25T20:44:55.041Z
Milestone	5.1
Labels	arch:powerpc, bsp, priority::normal, resolution::fixed, ticket-type::enhancement, version::4.11
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2457
Merges	0

Remove the powerpc/ep1a BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP

Rationale: AFAIK this BSP was only used on a program supported by OAR. That program is no longer in active development and is completely frozen. If that situation changes, the BSP can be resurrected. It was introduced 10 years ago and has not has a modification other than general maintenance in the last four years.

- [0001-powerpc-ep1a-Remove.patch](#)
- [0001-rtems-bit_all_bsps-Remove-ep1a-reference.patch](#)

Author: Trac Migrate 2015-12-09T03:58:00.000Z

- **Attachment** [0001-powerpc-ep1a-Remove.patch](#) added

Author: Trac Migrate 2015-12-09T03:58:12.000Z

- **Attachment** [0001-rtems-bit_all_bsps-Remove-ep1a-reference.patch](#) added

Author: Trac Migrate 2015-12-09T06:29:05.000Z

In changeset 05d09f44fc298db02043cb6e21783cfb129b1c85:
 powerpc/ep1a: Remove updates [#2457](#).

Author: Trac Migrate 2015-12-09T06:29:57.000Z

- **Owner** set to Aun-Ali Zaidi <admin@kodeit.net>
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In changeset 6d384ec087724b65a1efb7930d35e87d4669f3bb:
 rtems/bit_all_bsps: Remove ep1a reference closes [#2457](#).

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Amar Takhar 2024-04-25T20:44:55.088Z

changed the description

4.2.1.235 2453 - Remove h8300/h8sim BSP

Id	2453
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2015-11-03T15:31:06.000Z
Updated	2024-04-25T20:44:54.617Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::fixed, tickettype::enhancement, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2453
Merges	0

Remove the h8300/h8sim BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP

Author: Trac Migrate 2015-12-14T03:03:14.000Z

In changeset 357fdfc2466f53a35d9821776d56fa236349a489:

h8300/h8sim: Remove updates [#2453](#).

Author: Trac Migrate 2015-12-14T03:07:53.000Z

In changeset fcd7e2207454036956ac46c59cd4509da949ab43:

h8300: Remove h8sim references updates [#2453](#).

Author: Trac Migrate 2015-12-14T03:08:07.000Z

- **Owner** set to Aun-Ali Zaidi <admin@kodeit.net>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset ea51d2ac224dd8a1a88e05d16287d6fa1ac6c555:

bsps/h8sim*: Remove closes [#2453](#).

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:44:54.659Z

changed the description

4.2.1.236 2451 - Remove arm/gp32 BSP

Id	2451
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2015-11-03T15:25:42.000Z
Updated	2024-04-25T20:44:54.158Z
Milestone	5.1
Labels	arch:arm, bsp, priority::normal, resolution::fixed, ticket-type::enhancement, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2451
Merges	0

Remove the arm/gp32 BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP

Rationale: This BSP is for an open source alternative to the Gameboy Advance introduced in 2001. Wikipedia notes that 30K units were sold but it has been unavailable since 2007. This was a useful BSP when there were few ARM BSPs and the openness was interesting but with the Pi, Beagle, etc. these days are long past.

Author: Trac Migrate 2015-12-13T13:39:53.000Z

- **Owner** set to Aun-Ali Zaidi <admin@kodeit.net>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 22e1982b7fbe57fdcb0c3b1a3cbf13d5f8d2d8e5:

rtems/bit_all_bsps: Remove gp32 reference closes [#2451](#).

Author: Trac Migrate 2015-12-13T13:40:07.000Z

In changeset f2a228b2cb5ce376c56ae8d767084b92f2822af0:

arm/gp32: Remove updates [#2451](#).

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:44:54.232Z

changed the description

4.2.1.237 2450 - Remove arm/nds

Id	2450
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2015-11-03T15:22:02.000Z
Updated	2024-04-25T20:44:53.723Z
Milestone	5.1
Labels	arch:arm, bsp, priority::normal, resolution::fixed, ticket-type::enhancement, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2450
Merges	0

Remove the arm/nds BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP

Rationale: This BSP is for very old Nintendo hardware and required the use of either a simulator or hard to obtain programmable game cartridge. Nintendo was aggressive in shutting down resellers of those cartridges. There is no real console input and it is hard to automate testing. This was a useful BSP when there were few ARM BSPs but with the Pi, Beagle, etc. these days are long past.

Author: Trac Migrate 2015-12-11T14:20:52.000Z

In changeset 32c2cd2be1067ebe32cdabccbc8aa16126ae3a32:
arm/nds: Remove updates [#2450](#).

Author: Trac Migrate 2015-12-11T14:21:55.000Z

- **Owner** set to Aun-Ali Zaidi <admin@kodeit.net>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 7cbd67b90b5aa4e4967b1a59f3ecd9f6e13e657f:
rtems/bit_all_bsps: Remove nds reference closes [#2450](#).

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Amar Takhar 2024-04-25T20:44:53.767Z

changed the description

4.2.1.238 2449 - Remove arm/gba BSP

Id	2449
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2015-11-03T15:21:15.000Z
Updated	2024-04-25T20:44:53.299Z
Milestone	5.1
Labels	arch:arm, bsp, priority::normal, resolution::fixed, ticket-type::enhancement, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2449
Merges	0

Remove the arm/gba BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP

Rationale: This BSP is for very old Nintendo hardware and required the use of either a simulator or hard to obtain programmable game cartridge. Nintendo was aggressive in shutting down resellers of those cartridges. There is no real console input and it is hard to automate testing. This was a useful BSP when there were few ARM BSPs but with the Pi, Beagle, etc. these days are long past.

Author: Trac Migrate 2015-12-13T01:20:56.000Z

- **Owner** set to Aun-Ali Zaidi <admin@kodeit.net>
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In changeset 0b52107768d392f65e41c075e16c563c6f87ebb6:

rtems/bit_all_bsps: Remove gba reference closes [#2449](#).

Author: Trac Migrate 2015-12-13T01:21:54.000Z

In changeset c8a8a6013fc3c02ae58eb343afec00a5954952e5:

arm/gba: Remove updates [#2449](#).

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:44:53.340Z

changed the description

4.2.1.239 2448 - Remove mips/mongoose BSP

Id	2448
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2015-11-03T14:54:17.000Z
Updated	2024-04-25T20:44:52.851Z
Milestone	5.1
Labels	bsp, mips, priority::normal, resolution::fixed, tickettype::enhancement, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2448
Merges	0

Remove the m32r/m32rsim BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP

Rationale: This is a radiation hardened MIPS R3000 CPU that has only been used by a few missions. After discussions with various NASA and commercial engineers, we have learned that it is no longer considered an option for new missions and has not an option for a considerable length of time. The missions still underway (including New Horizons) are locked down on very old versions of their development infrastructure including hosts.

Author: Trac Migrate 2015-12-14T16:31:23.000Z

In changeset f39e173c47200d5638b7fd38b1548e30282d1484:

mips/genmongoosev: Remove updates [#2448](#).

Author: Trac Migrate 2016-02-26T15:43:03.000Z

- **Resolution** set to ~"fixed"

- **Status** changed from *new* to *closed*

Closing. . .

Author: Trac Migrate	2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

Author: Trac Migrate	2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Amar Takhar	2024-04-25T20:44:52.897Z

changed the description

4.2.1.240 2447 - Remove m32r/m32rsim

Id	2447
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2015-11-03T14:42:31.000Z
Updated	2024-04-25T20:44:52.350Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::fixed, tickettype::enhancement, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2447
Merges	0

Remove the m32r/m32rsim BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP

- [0001-dejagnum-boards-rtems-m32r-m32rsim.exp-Remove.patch](#)
- [0001-m32r-m32rsim-Remove.patch](#)
- [0002-sim-scripts-Makefile-Remove-m32r-reference.patch](#)
- [0003-sim-scripts-.gitignore-Remove-m32r-references.patch](#)
- [0004-sim-scripts-m32rsim.in-Remove.patch](#)
- [0005-gcc-rundeja-Remove-m32r-reference.patch](#)
- [0006-gcc-test_driver-Remove-m32r-reference.patch](#)
- [0007-gcc-RTEMS_GCC_Testing.txt-Remove-m32r-references.patch](#)
- [0008-gcc-do_one-Remove-m32r-reference.patch](#)

- [0009-gcc-parallelize_build-Remove-m32r-reference.patch](#)
- [0010-gcc-testsuite-ada-acats-Makefile.rtems-Remove-m32r-r.patch](#)
- [0011-simple-build-script-build_tools-Remove-m32r-referenc.patch](#)
- [0012-rtems-bit_rtems-Remove-m32r-reference.patch](#)
- [0013-rtems-bit_all_bsps-Remove-m32r-references.patch](#)
- [0014-rtems-bit_all_multilib-Remove-m32r-reference.patch](#)
- [0015-rtems-common.sh-Remove-m32r-references.patch](#)

Author: Trac Migrate 2015-12-09T19:31:18.000Z

- **Attachment** [0001-dejagnu-boards-rtems-m32r-m32rsim.exp-Remove.patch](#) added

Author: Trac Migrate 2015-12-09T19:31:33.000Z

- **Attachment** [0001-m32r-m32rsim-Remove.patch](#) added

Author: Trac Migrate 2015-12-09T19:31:42.000Z

- **Attachment** [0002-sim-scripts-Makefile-Remove-m32r-reference.patch](#) added

Author: Trac Migrate 2015-12-09T19:31:51.000Z

- **Attachment** [0003-sim-scripts-.gitignore-Remove-m32r-references.patch](#) added

Author: Trac Migrate 2015-12-09T19:32:01.000Z

- **Attachment** [0004-sim-scripts-m32rsim.in-Remove.patch](#) added

Author: Trac Migrate 2015-12-09T19:32:12.000Z

- **Attachment** [0005-gcc-rundeja-Remove-m32r-reference.patch](#) added

Author: Trac Migrate 2015-12-09T19:32:34.000Z

- **Attachment** [0006-gcc-test_driver-Remove-m32r-reference.patch](#) added

Author: Trac Migrate 2015-12-09T19:32:43.000Z

- **Attachment** [0007-gcc-RTEMS_GCC_Testing.txt-Remove-m32r-references.patch](#) added

Author: Trac Migrate 2015-12-09T19:32:52.000Z

- Attachment [0008-gcc-do_one-Remove-m32r-reference.patch](#) added

Author: Trac Migrate 2015-12-09T19:33:01.000Z

- Attachment [0009-gcc-parallelize_build-Remove-m32r-reference.patch](#) added

Author: Trac Migrate 2015-12-09T19:33:10.000Z

- Attachment [0010-gcc-testsuite-ada-acats-Makefile.rtems-Remove-m32r-r.patch](#) added

Author: Trac Migrate 2015-12-09T19:33:20.000Z

- Attachment [0011-simple-build-script-build_tools-Remove-m32r-referenc.patch](#) added

Author: Trac Migrate 2015-12-09T19:33:29.000Z

- Attachment [0012-rtems-bit_rtems-Remove-m32r-reference.patch](#) added

Author: Trac Migrate 2015-12-09T19:33:38.000Z

- Attachment [0013-rtems-bit_all_bsps-Remove-m32r-references.patch](#) added

Author: Trac Migrate 2015-12-09T19:33:47.000Z

- Attachment [0014-rtems-bit_all_multilib-Remove-m32r-reference.patch](#) added

Author: Trac Migrate 2015-12-09T19:33:56.000Z

- Attachment [0015-rtems-common.sh-Remove-m32r-references.patch](#) added

Author: Joel Sherrill 2015-12-09T23:11:30.000Z

Grrr... you need to rebase your RTEMS tree. The rtems patch to remove the BSP does not apply.

git checkout master git pull git checkout am # assuming that's the name of the branch git rebase -i master

make a new patch

Please also delete all obsolete patches on this PR.

Author: Joel Sherrill 2015-12-09T23:13:47.000Z

Please combine all patches for rtems-testing into a single patch.

Also do not remove support for the m32r architecture in general. This means rtems-testing should not be modified.

Please resubmit

Author: Trac Migrate 2015-12-10T00:19:50.000Z

I am not aware of a method of deleting the obsolete patches. As far as I know, that requires admin privileges.

Replying to [joel.sherrill](#):

Grrr. . . you need to rebase your RTEMS tree. The rtems patch to remove the BSP does not apply. git checkout master git pull git checkout am # assuming that's the name of the branch git rebase -i master

make a new patch Please also delete all obsolete patches on this PR.

Author: Trac Migrate 2015-12-10T00:21:30.000Z

Replying to [joel.sherrill](#):

Please also delete all obsolete patches on this PR.

I am not aware of a method of deleting the obsolete patches. As far as I know, that requires admin privileges.

Author: Joel Sherrill 2015-12-10T01:00:32.000Z

I take back something I said. There maybe m32rsim references in the rtems-testing/gcc subdirectory. If so, kill them. But don't drop the entire m32r.

Sorry. This gets complicated.

Author: Trac Migrate 2015-12-10T08:29:28.000Z

In changeset f7c47a6880aea022b12f7f553df070d6f7ec0702:

m32r/m32rsim: Remove updates [#2447](#).

Author: Joel Sherrill 2015-12-10T13:57:44.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Author: Trac Migrate 2015-12-14T03:10:36.000Z

- **Owner** set to Aun-Ali Zaidi <admin@kodeit.net>

In changeset 2df531a2b7cdae890618c515c41a664b82ac2e9d:

bsps/m32rsim*: Remove closes [#2447](#).

Author: Gedare Bloom 2015-12-14T03:13:42.000Z

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

Still hasn't been removed from rtems-testing.git.

Author: Joel Sherrill 2016-01-03T21:06:57.000Z

Do we remove the tests from sim-scripts even when supported by older ports? I am reasonably happy to do this because the three ports being removed this time are all but useless. But in general, we need to be more deliberate.

I suppose it is OK if there are release branches for this repo.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-08-24T06:19:41.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

In [changeset:"9da6e089bbfabcf5621fb40b208e90fa9b5d3b14/rtems-testing" 9da6e08/rtems-testing]:

```
1 sim-scripts: Remove obsolete ignores
2
3 Close #2447.
```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:44:52.429Z

changed the description

4.2.1.241 2445 - Remove m68k/sim68000 BSP

Id	2445
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2015-11-03T00:25:43.000Z
Updated	2024-04-25T20:44:51.898Z
Milestone	5.1
Labels	arch:m68k, bsp, priority::normal, resolution::fixed, ticket-type::enhancement, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2445
Merges	0

Remove the m68k/sim68000 BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP

Rationale: This is a BSP for a simulator named BSVC (<http://www4.ncsu.edu/~bwmott/bsvc/>) that was never under a truly free license and has not been updated in a decade. Although a decent tool, it was extremely slow.

- [0001-m68k-acinclude.m4-Regenerate-to-remove-sim68000.patch](#)
- [0001-m68k-sim68000-Remove.patch](#)
- [0001-rtems-bit_all_bsps-Remove-sim68000-reference.patch](#)

Author: Joel Sherrill 2015-11-03T15:48:41.000Z

- **Description** changed

1

Remove the m68k/sim68000 BSP per the instructions at \ |md_0_8203|_↵
https://devel.rtems.org/wiki/Developer/Removing_a_BSP

2

+

3

+ Rationale: This is a BSP for a simulator named BSVC (<http://www4.ncsu.edu/~bwmott/bsvc/>) that was never under a truly free license and has_↵
↵not been updated in a decade. Although a decent tool, it was_↵
↵extremely slow.

4

+

Author: Trac Migrate 2015-12-08T01:46:55.000Z

- **Attachment** [0001-m68k-sim68000-Remove.patch](#) added

Author: Trac Migrate 2015-12-08T01:47:11.000Z

- **Attachment** [0001-m68k-acinclude.m4-Regenerate-to-remove-sim68000.patch](#) added

Author: Trac Migrate 2015-12-08T01:58:35.000Z

- **Attachment** [0001-rtems-bit_all_bsps-Remove-sim68000-reference.patch](#) added

rtems-testing

Author: Trac Migrate 2015-12-08T02:16:14.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Author: Trac Migrate 2015-12-08T06:32:35.000Z

- **Owner** set to Aun-Ali Zaidi <admin@kodeit.net>

In changeset a4e172aca7e0dd43a4c9822fe7c6afde2f22f49b:

m68k/sim68000: Remove closes [#2445](#).

Author: Trac Migrate 2015-12-08T06:33:17.000Z

In changeset 008f779de1c423c3094b76b40d46ee29f784b619:

rtems/bit_all_bsps; Remove sim68000 reference closes [#2445](#).

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:44:51.954Z

changed the description

4.2.1.242 2444 - Remove m68k/mvme136 BSP

Id	2444
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2015-11-03T00:25:00.000Z
Updated	2024-04-25T20:44:51.456Z
Milestone	5.1
Labels	arch:m68k, bsp, priority::normal, resolution::fixed, tickettype::defect, tickettype::enhancement, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2444
Merges	0

Remove the m68k/mvme136 BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP

Rationale: Although it is sad to see the BSP for the board that RTEMS was developed for be removed, this board was current in 1988-9. It has only 1MB RAM, 2 UARTS, and no NIC. It is unlikely to be available and without a NIC, isn't that useful.

- [0001-m68k-mvme136-Remove.2.patch](#)
- [0001-m68k-mvme136-Remove.patch](#)
- [0001-rtems-bit_rtems-Remove-mvme136-reference.patch](#)
- [0002-m68k-acinclude.m4-Regenerate-to-remove-mvme136.patch](#)
- [0002-rtems-bit_all_bsps-Remove-mvme136-reference.patch](#)

Author: Joel Sherrill 2015-11-03T15:47:14.000Z

- **Description** changed

1 Remove the m68k/mvme136 BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP
2 +
3 + Rationale: Although it is sad to see the BSP for the board that RTEMS_
was developed for be removed, this board was current in 1988-9. It_
has only 1MB RAM, 2 UARTS, and no NIC. It is unlikely to be available_
and without a NIC, isn't that useful.

Author: Trac Migrate 2015-12-08T02:49:23.000Z

- **Attachment** [0001-m68k-mvme136-Remove.patch](#) added

Author: Trac Migrate 2015-12-08T02:49:41.000Z

- **Attachment** [0002-m68k-acinclude.m4-Regenerate-to-remove-mvme136.patch](#) added

Author: Trac Migrate 2015-12-08T02:56:11.000Z

- **Attachment** [0001-rtems-bit_rtems-Remove-mvme136-reference.patch](#) added

Author: Trac Migrate 2015-12-08T02:56:23.000Z

- **Attachment** [0002-rtems-bit_all_bsps-Remove-mvme136-reference.patch](#) added

Author: Joel Sherrill 2015-12-08T17:07:22.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Author: Trac Migrate 2015-12-08T20:00:23.000Z

- **Attachment** [0001-m68k-mvme136-Remove.2.patch](#) added

Author: Trac Migrate 2015-12-08T20:03:33.000Z

- **Owner** set to Aun-Ali Zaidi <admin@kodeit.net>

In changeset 9ae2d98866cace349fc40feac8cf0e8895d9c699:

m68k/mvme136: Remove closes [#2444](#).

Author: Trac Migrate 2015-12-08T20:11:50.000Z

In changeset 37efe15157d2479d600647080583cf37b23db4ff:

rtems/bit_rtems and bit_all_bsps: Remove mvme136 reference updates [#2444](#).

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Amar Takhar 2024-04-25T20:44:51.508Z

changed the description

4.2.1.243 2442 - Remove avrtest BSP

Id	2442
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2015-11-02T18:00:20.000Z
Updated	2024-04-25T20:44:51.026Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::fixed, tickettype::enhancement, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2442
Merges	0

Remove the avr/avrtest BSP per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_BSP

- [0001-avr-avrtest-Remove-avrtest-references.patch](#)
- [0001-avr-avrtest-Remove-obselete.patch](#)

Author: Joel Sherrill 2015-11-03T19:27:04.000Z

- **Owner** set to joel.sherrill@oarcorp.com

Author: Trac Migrate 2015-12-19T16:12:20.000Z

- **Attachment** [0001-avr-avrtest-Remove-obselete.patch](#) added

Author: Trac Migrate 2015-12-19T16:12:44.000Z

- **Attachment** [0001-avr-avrtest-Remove-avrtest-references.patch](#) added

Author: Trac Migrate 2015-12-19T19:58:56.000Z

In changeset 34a2ec924d4300ff22504d1740d2bcd3c7acdb18:
avr/avrtest: Remove (obselete). Updates [#2442](#).

Author: Trac Migrate 2015-12-19T19:59:18.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset a452c5727244c608379b08b1f6d720858cb41a78:
avr/avrtest: Remove avrtest references. Closes [#2442](#).

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Amar Takhar 2024-04-25T20:44:51.071Z

changed the description

4.2.1.244 2198 - Automate doxygen build

Id	2198
State	closed
Type	ISSUE
Author	Gedare Bloom
Assignee(s)	Chris Johns
Created	2014-11-21T19:20:28.000Z
Updated	2024-04-25T20:44:35.585Z
Milestone	5.1
Labels	doc, infra::migration, priority::highest, resolution::fixed, tickettype::infra, version::4.11, version::4.12, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2198
Merges	0

The doxygen builds are no longer being generated nightly.

Author: Amar Takhar 2015-03-06T16:15:58.000Z

- **Milestone** changed from %”4.11” to %”4.11.1”

Docs have been built but are not updating automatically. I will re-generate this once we cut milestone:4.11 as part of the **Release** checklist.

Author: Joel Sherrill 2015-06-09T19:05:03.000Z

- **Cc** added @sebastian.huber

Ping

Author: Amar Takhar 2015-06-09T19:46:10.000Z

The milestone is set for 4.11.1. I'll try to get it done sooner I just don't know. I can re-run it again today if that is good enough.

Author: Joel Sherrill 2017-01-13T22:30:44.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-01-26T07:16:00.000Z

- **Milestone** changed from %"4.11.1" to %"4.11.2"

Author: Chris Johns 2017-03-23T01:01:56.000Z

- **Milestone** changed from %"4.11.2" to %"4.12"
- **Version** changed from ~"4.11" to ~"4.12"

This ticket should be on master.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Chris Johns 2018-06-15T00:22:17.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Online here <https://docs.rtems.org/doxygen/branches/master/>

Author: Amar Takhar 2024-04-25T20:44:35.618Z

changed the description

4.2.1.245 1638 - tar01/tar02 tarballs contain non-deterministic uids/gids + permissions

Id	1638
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2010-07-28T04:17:39.000Z
Updated	2022-12-16T05:51:15.000Z
Milestone	5.1
Labels	priority::low, priority::normal, resolution::fixed, tickettype::defect, tool::test, version::4.11, version::HEAD
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/1638
Merges	0

Original author: ralf.corsepius

The tarballs being created in libtests/tar01 and libtests/tar02 contain non deterministic uids/gids (Those of the user creating the tarball) and permissions (as specified by the user's creating the tarballs umask).

Author: Chris Johns 2010-07-29T05:54:11.000Z

Original author: ralf.corsepius

- **Cc** added @@chrisj

Replying to comment:2:

That said, at present, I am leaning towards adding binary tarballs with predefined uids/gids/permissions and not to user-generate them.

If we are converting the binary tar file to a C file should we just commit the C file ?

I am not sure if this approach can be extended to all RTEMS applications. I know with Parrot we need to create a base file system at the build time to capture the host compiled byte code files. I wonder if the building of the test Parrot application should fail if a no suitable tar can be found on the build host. Ralf, I would appreciate your feed back on this issue.

Author: Gedare Bloom 2014-11-24T18:58:28.000Z

Original author: ralf.corsepius

- **Version** changed from ~"HEAD" to ~"4.11"

Replace Version=HEAD with Version=4.11 for the tickets with Milestone >= 4.11

Author: Trac Migrate 2014-12-18T09:17:41.000Z

Original author: ralf.corsepius

Original author: sebastian.huber

- **Description** changed

```
1 The tarballs being created in libtests/tar01 and libtests/tar02 contain
  ↪ non deterministic uids/gids (Those of the user creating the tarball)
  ↪ and
2 permissions (as specified by the user's creating the tarballs umask).
```

- **Milestone** changed from %"4.11" to %"5.0"
- **Priority** changed from ~"normal" to ~"low"

Author: Chris Johns 2017-08-14T00:29:21.000Z

Original author: ralf.corsepius

- **Milestone** changed from %"5.0" to %"Indefinite"
- **Version** ~"4.11" deleted

Author: Joel Sherrill 2022-12-15T16:44:16.000Z

Original author: ralf.corsepius

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Has this been resolved as part of fixing other tar issues? I recall deterministic user ids in the tar file was discussed.

Author: Trac Migrate 2022-12-16T05:51:15.000Z

Original author: ralf.corsepius

- **Milestone** changed from %"Indefinite" to %"5.1"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

The archive for the tests is now included in the repository, see [#3968](#).

4.2.1.246 4362 - about error number

Id	4362
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-27T02:32:47.000Z
Updated	2022-11-10T01:07:27.000Z
Milestone	5.1
Labels	network::legacy, priority::low, resolution::invalid, tickettype::defect, version::4.11, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4362
Merges	0

Original author: only_yipie

We found that there is an error code defined as 5, usually the error code is defined as -1, which will cause confusion in the return value of the program, although this error code has not been used. related file is cpukitftpdftpd.h in line 66 `#define ERROR 5`

Author: Chris Johns 2022-11-10T01:07:27.000Z

Original author: only_yipie

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*
- **Version** changed from ~"4.11" to ~"5"

I do not understand the issue.

4.2.1.247 4604 - Telnet client protocols

Id	4604
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2022-02-11T03:41:03.000Z
Updated	2022-11-10T01:03:14.000Z
Milestone	5.1
Labels	priority::normal, resolution::invalid, tickettype::defect, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4604
Merges	0

Original author: ostyche

RTEMS doesn't support Telnet client protocols

Author: Chris Johns 2022-11-10T01:03:14.000Z

Original author: ostyle

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

It does in the legacy and libbsd stacks.

4.2.1.248 4353 - the pci initialization part cannot pass the initialization

Id	4353
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-21T09:26:25.000Z
Updated	2022-11-10T00:11:16.000Z
Milestone	5.1
Labels	priority::normal, resolution::wontfix, tickettype::defect, version::4.11, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4353
Merges	0

Original author: only_yipie

the pci initialization part of x86 version cannot be initialized on the real machine. the related file is bsp/i386/shared/pci/pcibios.c

Author: Chris Johns 2022-11-10T00:11:16.000Z

Original author: only_yipie

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*
- **Version** changed from ~"4.11" to ~"5"

Please reopen when being worked on or a fix is available.

4.2.1.249 4352 - about get cpu number

Id	4352
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-21T09:11:45.000Z
Updated	2022-11-10T00:10:48.000Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::wontfix, tickettype::defect, version::4.11, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4352
Merges	0

Original author: only_yipie

The x86 multi-core version can get the correct core number on qemu, but the core number is wrong on the real machine which supports hyper-threaded. the related files are csrcliblibbspi386sharedsmptmp-imp.c csrcliblibbspi386sharedsmpgetcpuid.c

Author: Chris Johns 2022-11-10T00:10:48.000Z

Original author: only_yipie

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*
- **Version** changed from ~"4.11" to ~"5"

Please reopen when being worked on or a fix is available.

4.2.1.250 4325 - Ubuntu's gcc preventing QEMU from being built

Id	4325
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-03-09T15:05:27.000Z
Updated	2022-11-10T00:09:34.000Z
Milestone	5.1
Labels	priority::normal, resolution::wontfix, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4325
Merges	0

Original author: rlong

Ubuntu version: 20.4 GCC version: (Ubuntu 9.3.0-17ubuntu1~20.04) 9.3.0

Error:

```

1 ../../glib-2.46.2/gio/gdbusauth.c: In function '_g_dbus_auth_run_server':
2 ../../glib-2.46.2/gio/gdbusauth.c:1295:11: error: '%s' directive argument is null
   ↪ [-Werror=format-overflow=]
3 1295 |         debug_print ("SERVER: WaitingForBegin, read '%s'", line);

```

Author: Chris Johns 2022-11-10T00:09:34.000Z

Original author: rlong

- **Resolution** set to ~”wontfix”
- **Status** changed from *new* to *closed*

Please reopen when being worked on or a fix is available.

4.2.1.251 4210 - rtems-record-ltng ‘-e’ option does not verify existance

Id	4210
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-01-04T22:55:59.000Z
Updated	2022-11-10T00:08:28.000Z
Milestone	5.1
Labels	priority::normal, resolution::wontfix, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4210
Merges	0

Original author: rlong

When using the rtems-record-ltng program, I was not getting an error when using the program in a directory where the ELF executable file did not exist.

Author: Chris Johns 2022-11-10T00:08:28.000Z

Original author: rlong

- **Resolution** set to ~”wontfix”
- **Status** changed from *new* to *closed*

Please reopen when a fix is provided.

4.2.1.252 4170 - Raspberry Pi booting files from master branch not working

Id	4170
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-11-04T08:50:37.000Z
Updated	2022-11-10T00:07:39.000Z
Milestone	5.1
Labels	priority::normal, resolution::wontfix, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4170
Merges	0

Original author: miguelgarcia

In order to execute an RTEMS 5.1 image in a Raspberry Pi 2, documentation (<https://ftp.rtems.org/pub/rtems/releases/5/5.1/docs/html/user/bsps/bsps-arm.html#setup-sd-card>) specifies that the boot files can be downloaded from <https://github.com/raspberrypi/firmware/tree/master/boot>

Last commit that I could check is 0c3ecac5... and it does not work.

On the other hand, I could check the version in tag 1.20190718 and it works. <https://github.com/raspberrypi/firmware/tree/1.20190718/boot>

Maybe documentation can be updated to link with the correct version of Raspberry Pi booting.

Author: Chris Johns 2022-11-10T00:07:39.000Z

Original author: miguelgarcia

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

Please use RTEMS 6 (main branch)

4.2.1.253 4139 - low efficiency of sending inter-core interrupts

Id	4139
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-10-09T11:19:06.000Z
Updated	2022-11-10T00:06:24.000Z
Milestone	5.1
Labels	library, priority::normal, resolution::wontfix, tickettype::defect, version::4.11, version::4.9, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4139
Merges	0

Original author: only_yipie

In the pc386 board-level support package, calling UDELAY(100) in send_api() results in low efficiency of sending inter-core interrupts. The related file is “c/src/lib/libbsp/i386/shared/smp/smp-imps.c”.

Author: Trac Migrate 2020-10-09T11:24:39.000Z

Original author: only_yipie

- **Milestone** changed from %”4.9.5” to %”5.1”

Author: Trac Migrate 2021-03-21T09:31:00.000Z

Original author: only_yipie

- **Version** changed from ~”4.9” to ~”4.11”

we improve the performance by deleting the udelay(100)

Author: Chris Johns 2022-11-10T00:06:24.000Z

Original author: only_yipie

- **Resolution** set to ~”wontfix”
- **Status** changed from *new* to *closed*
- **Version** changed from ~”4.11” to ~”5”

Please reopen when the fixes are provided.

4.2.1.254 4138 - the atomicity of some operations cannot be guaranteed.

Id	4138
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-10-09T11:11:21.000Z
Updated	2022-11-10T00:02:42.000Z
Milestone	5.1
Labels	priority::normal, resolution::wontfix, tickettype::defect, tool::gcc, version::4.11, version::4.9, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4138
Merges	0

Original author: only_yipie

The atomic operations _atmoic_add() and exchange_and_add() of the gcci386 tool chain do not use the lock instruction, thus the atomicity of operations cannot be guaranteed. The related file is “gcc-4.9.3/libstdc++-v3/config/cpu/i386/atomicity.h”.

Author: Trac Migrate 2020-10-09T11:24:16.000Z

Original author: only_yipie

- **Milestone** changed from %”4.9.5” to %”5.1”

Author: Joel Sherrill 2020-10-09T11:25:57.000Z

Original author: only_yipie

Is this not fixed with the recent multilib change?

Author: Trac Migrate 2021-03-21T09:32:21.000Z

Original author: only_yipie

- **Version** changed from ~”4.9” to ~”4.11”

Author: Trac Migrate 2021-03-21T09:33:42.000Z

Original author: only_yipie

no we used our own method to improve this problem and we will submit the solution later. Replying to [Joel Sherrill](#):

Is this not fixed with the recent multilib change?

Author: Chris Johns 2022-11-10T00:02:42.000Z

Original author: only_yipie

- **Resolution** set to ~”wontfix”
- **Status** changed from *new* to *closed*
- **Version** changed from ~”4.11” to ~”5”

Please reopen with the mentioned changes.

4.2.1.255 4137 - The select mechanism does not support asynchronous device communication

Id	4137
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-10-09T10:58:44.000Z
Updated	2022-11-10T00:01:46.000Z
Milestone	5.1
Labels	priority::normal, resolution::invalid, tickettype::defect, version::4.11, version::4.9
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4137
Merges	0

Original author: only_yipie

The select mechanism does not support asynchronous device communication.

Author: Trac Migrate 2020-10-09T11:22:27.000Z

Original author: only_yipie

- **Milestone** changed from %"4.9.5" to %"5.1"

Author: Joel Sherrill 2020-10-09T12:49:30.000Z

Original author: only_yipie

I am trouble interpreting what this is even saying does not work. It mentions no specific devices, APIs, or includes a test case. `select()` now does work on termios devices if that was what this was about.

It needs clarification or closing as no idea what to do.

Author: Trac Migrate 2021-03-21T08:33:26.000Z

Original author: only_yipie

- **Version** changed from ~"4.9" to ~"4.11"

Author: Trac Migrate 2021-03-21T09:36:44.000Z

Original author: only_yipie

well, I mean that the `select()` does not implement the mentioned function Replying to [Joel Sherrill](#):

I am trouble interpreting what this is even saying does not work. It mentions no specific devices, APIs, or includes a test case. `select()` now

does work on termios devices if that was what this was about. It needs clarification or closing as no idea what to do.

Author: Chris Johns 2022-11-10T00:01:46.000Z

Original author: only_yipie

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

We need more information to work on this.

4.2.1.256 2452 - Remove H8300 Architectural Port

Id	2452
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2015-11-03T15:30:21.000Z
Updated	2021-10-08T15:42:04.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::enhancement, version::4.11
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2452
Merges	0

Remove the H8300 port per the instructions at https://devel.rtems.org/wiki/Developer/Removing_a_Port.

All BSPa must be removed before the architectural port can be removed. These are tracked by the following tickets:

2453 - h8sim

Rationale: The h8 has been end of lifed. There do not appear to be any users based up questions and tickets filed. The architecture itself has issues which lead to breakages in gcc (which do get fixed though often slowly) and those same issues force us to disable some features like iconv in newlib. With no users, end of life, and tool issues, it is time to remove it.

Author: Joel Sherrill 2015-11-03T15:31:19.000Z

- **Description** changed

```

1 Remove the H8300 port per the instructions at \ |md_0_8203|\ https://
  ↳ devel.rtems.org/wiki/Developer/Removing_a_Port.
2
3 All BSPa must be removed before the architectural port can be removed. ↳
  ↳ These are tracked by the following tickets:
```

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```

4
5 - #2442 - h8sim
6 ?    ^^
7
8 + #2453 - h8sim
9 ?    ^^
10
11
12 Rationale: The h8 has been end of lifed. There do not appear to be any
    ↪ users based up questions and tickets filed. The architecture itself
    ↪ has issues which lead to breakages in gcc (which do get fixed though
    ↪ often slowly) and those same issues force us to disable some features
    ↪ like iconv in newlib. With no users, end of life, and tool issues, it
    ↪ is time to remove it.

```

Author: Trac Migrate 2017-02-15T13:50:44.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-06-08T07:24:20.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Port has been removed by [f6a8663ec590a07d0a65c7305bacec0f9534775e/rtems].

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Trac Migrate 2018-11-08T15:48:38.000Z

In [changeset:"947b679f74325a296904ae151899e3a42b6c8437/rtems" 947b679/rtems]:

```

1 h8300: Remove left over files
2
3 Update #2452.

```


Author: Trac Migrate 2021-10-08T15:42:04.000Z

In [changeset:"f6385b4edc5d0cc6626783c7920c521622796b4b/rtems" f6385b4e/rtems]:

```
1 libdl/rtl-mdreloc-h8300.c: Remove remnant of h8300 port
2
3 Updates #2452.
```

4.2.1.257 3888 - Update rtems_waf in libbsd

Id	3888
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-02-28T03:01:05.000Z
Updated	2021-08-11T17:03:21.000Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3888
Merges	0

Update master and the 5-freebsd-12 branch.

Author: Trac Migrate 2020-04-04T12:43:07.000Z

This ticket was referenced in the following commit: <https://git.rtems.org/rtems-libbsd/commit/?h=5-freebsd-12&id=2b9172c9d42d056b6fb16d667091e2ee3ac64009>

But it didn't close. Shall we manually change it to "fixed"?

Author: Gedare Bloom 2020-04-06T05:13:42.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Author: Gedare Bloom 2020-04-06T05:17:57.000Z

I guess it wasn't pushed to master. Chris, reopen if you still need to keep track of this.

Author: Trac Migrate 2021-08-11T17:03:21.000Z

In [changeset:"8df57649b09f31a58660d9b3c2478195f15f40ce/rtems" 8df5764/rtems]:

```

1 Test needed for timer_create with CLOCK_MONOTONC
2
3 the timer_create() method can use CLOCK_MONOTONIC
4 but there was no test for this.
5 Also it implements the functionality to
6 create a CLOCK_MONOTONIC timer and gettimeofday() .
7 Closes #3888

```

4.2.1.258 4385 - grlib/genirq: Bad returned value when enabling/disabling interrupt

Id	4385
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2021-04-13T05:46:42.000Z
Updated	2021-04-16T06:50:42.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/4385
Merges	1

Original author: GabrielMoyano

The function `genirq_set_active()` can return a value greater than 1 under some conditions

This function is used by `genirq_enable()` and `genirq_disable()` and both of them returns the value returned by `genirq_set_active()`. According to the documentation in `genirq.h`, they should return -1, 0 or 1.

When this issue can happen? If there are 3 entries in the list of IRQ and 2 of them are already enabled, the variable `enabled` would be 2, because of `enabled += isrentry->enabled`.

As a possible solution, the value of `enabled` can be changed to 1 if it's greater than 1.

Author: Trac Migrate 2021-04-16T06:50:42.000Z

Original author: GabrielMoyano

- **Owner** set to Moyano, Gabriel <gabriel.moyano@dlr.de>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"bc806d41a549390b2947b52cbc0a3a04b625c7ee/rtems" bc806d4/rtems]:

```

1 grlib/genirq: Taking into account that it could be more than one ISR_
  ↳ enabled/disabled
2
3 Closes #4385

```

4.2.1.259 4028 - i386: SMP-System hangs with non-consecutive APIC IDs

Id	4028
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-07-15T15:36:19.000Z
Updated	2020-10-08T13:30:29.000Z
Milestone	5.1
Labels	arch:i386, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4028
Merges	1

Original author: soja

If a processor enumerates its cores non-consecutively (e.g. 0,2,4,8 for a tested Intel Atom) the mapping to the per_CPU structures is not correct.

Author: Trac Migrate 2020-07-15T15:44:29.000Z

Original author: soja

I just noticed its not the per_cpu structures which does not work, but the IPIs are sent to the wrong CPU, because of the wrong mapping.

I have a patch ready, but I experience an error when I try to attach a file to this ticket.

Author: Trac Migrate 2020-07-16T13:08:26.000Z

Original author: soja

- **Owner** set to Jan Sommer <jan.sommer@dlr.de>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"a1f9265c035878cbd6ff1bf72d5adee20bb458a6/rtems" a1f9265c/rtems]:

```

1 bsp/pc386: Fix IPI for non-consecutive APICIDs
2

```

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```

3 - properly use the cpu <-> apic maps for IPIs
4
5 Closes #4028.

```

Author: Trac Migrate 2020-10-08T13:30:29.000Z

Original author: soja

In [changeset:"560c08cc3d458cdeb4abc014deef8f4ce42a5d54/rtems" 560c08c/rtems]:

```

1 bsp/include/bsp/fatal.h: Add GRLIB specific fatal error
2
3 updates #4028.

```

4.2.1.260 4083 - i386: bad asm in smp mode (rtems.git/5)

Id	4083
State	closed
Type	ISSUE
Author	Gedare Bloom
Assignee(s)	Gedare Bloom
Created	2020-09-21T17:22:31.000Z
Updated	2020-10-02T16:40:19.000Z
Milestone	5.1
Labels	arch:i386, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4083
Merges	1

Cloned from #4076:

A note for me (or someone) to make the fix outlined on the mailing list.

```

cpukit/score/cpu/i386/include/rtems/asm.h:157          movb
imps_apic_cpu_map(REG),REG          /* CPU ID in REG */ The as-
sembler is right to complain.  movb has to target one of the 1-byte
mnemonics, so this should be %al for the LSB of %eax. One needs to
check through this logic carefully, but I think the right thing to do here
is: movzbl    imps_apic_cpu_map(REG),REG That should do the trick.
Can you test it locally?

```

Sure! Builds fine and testsuite testing reveals:

Joel would like this fixed on 5.

Author: Gedare Bloom 2020-09-21T17:23:05.000Z

- **Description** changed

```

1 Cloned from #4076:
2 -----
3 A note for me (or someone) to make the fix outlined on the mailing list.
4
5
6
7     cpukit/score/cpu/i386/include/rtems/asm.h:157 \ |md_0_160|\  movb
8     imps_apic_cpu_map(\\REG),\\REG \ |md_0_160|\  \ |md_0_160|\  \ |md_
9     ↪0_160|\  \ |md_0_160|\  /* CPU ID in REG */
10     The assembler is right to complain. movb has to target one of the
11     ↪1-byte mnemonics, so this should be %al for the LSB of %eax. One_
12     ↪needs
13     to check through this logic carefully, but I think the right thing_
14     ↪to
15     do here is:
16     movzbl \ |md_0_160|\  \ |md_0_160|\  imps_apic_cpu_map(\\REG),\\REG
17     That should do the trick. Can you test it locally?
18
19     Sure! Builds fine and testsuite testing reveals:
20     +
21     + Joel would like this fixed on 5.

```

Author: Trac Migrate 2020-10-02T16:40:19.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"40f23ceae6026433154dda9591f101ffa8a1e747/rtems" 40f23cea/rtems]:

```

1 i386/score: fix assembly mnemonic
2
3 This is a backport for assembler error observed in 6. Although the
4 assembler error does not appear in 5, the backport was requested.
5
6 Closes #4083.

```

4.2.1.261 4057 - RSB 5/rtems-arm fails to build on Windows

Id	4057
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2020-08-20T22:31:06.000Z
Updated	2020-08-25T04:05:44.000Z
Milestone	5.1
Labels	priority::highest, resolution::fixed, tickettype::defect, tool::newlib, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4057
Merges	0

```

1 In file included from ../../../../../../../../../../gcc-7.5.0/newlib/libm/
  ↳ machine/arm/s_ceil.c:39:0:
2 ../../../../../../../../../../gcc-7.5.0/newlib/libm/machine/arm/../../../../math/s_
  ↳ ceil.c:23:10: fatal error: fdlibm.h: No such file or directory
3 #include "fdlibm.h"
4 ^~~~~~
5 compilation terminated.
6 make[9]: *** [Makefile:310: lib_a-s_ceil.o] Error 1
7 make[9]: *** Waiting for unfinished jobs....
8 In file included from ../../../../../../../../../../gcc-7.5.0/newlib/libm/
  ↳ machine/arm/s_floor.c:39:0:
9 ../../../../../../../../../../gcc-7.5.0/newlib/libm/machine/arm/../../../../math/s_
  ↳ floor.c:65:10: fatal error: fdlibm.h: No such file or directory
10 #include "fdlibm.h"
11 ^~~~~~
12 compilation terminated.

```

Author: Chris Johns 2020-08-25T04:05:44.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

I am going to close this. The issues I am seeing with rtems-release-test on Windows are related to file paths exceeding the maximum limit on Windows.

4.2.1.262 4056 - bsp/xilinx-zynq: Flush TX-Buffer before initializing the zynq-uart (cloned)

Id	4056
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-08-20T07:12:07.000Z
Updated	2020-08-22T07:30:22.000Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4056
Merges	1

Original author: soja

Cloned from [#4055](#):

We experienced that u-boot (at least from Xilinx repositories) does not wait until all its output has left the TX Buffer of the stdout uart, before handing over to the RTEMS application

This causes some garbage output at the begin of the RTEMS application in some cases and corrupts the test begin marker prohibiting rtems-test to recognize the test correctly.

Proposed fix is to let RTEMS wait until the TX Buffer of the uart is empty before configuring and using it.

Author: Trac Migrate 2020-08-22T07:29:38.000Z

Original author: soja

- **Owner** set to Jan Sommer <jan.sommer@dlr.de>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"b87efa7599f33f56608da20567d77dbb06db98e1/rtems" b87efa7/rtems]:

```

1 bsp/xilinx-zynq: Flush TX-Buffer before initializing uart
2
3 Closes #4055
4 Closes #4056

```

Author: Trac Migrate 2020-08-22T07:30:22.000Z

Original author: soja

In [changeset:"61ccb9c05dcd695114541960aa6bfc1315f30514/rtems" 61ccb9c0/rtems]:

```

1 bsp/xilinx-zynq: Flush TX-Buffer before initializing uart
2
3 Closes #4055
4 Closes #4056

```

4.2.1.263 4051 - libbsd test fails to build

Id	4051
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2020-08-13T08:44:07.000Z
Updated	2020-08-14T21:18:29.000Z
Milestone	5.1
Labels	libbsd, priority::highest, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4051
Merges	0

```

1 In file included from ../../testsuite/cdev01/test_main.c:153:0:
2 ../../testsuite/include/rtems/bsd/test/default-init.h: In function 'Init':
3 ../../testsuite/include/rtems/bsd/test/default-init.h:48:31: error: 'TEST_STATE'
  ↳ undeclared (first use in this function); did you mean 'TEST_WRITE'?
4 rtems_test_begin(TEST_NAME, TEST_STATE);
5 ^~~~~~
6 TEST_WRITE
7 ../../testsuite/include/rtems/bsd/test/default-init.h:48:31: note: each
  ↳ undeclared identifier is reported only once for each function it appears in
8
9 In file included from ../../testsuite/arphole/test_main.c:118:0:
10 ../../testsuite/include/rtems/bsd/test/default-network-init.h: In function 'Init':
11 ../../testsuite/include/rtems/bsd/test/default-network-init.h:195:30: error:
  ↳ 'TEST_STATE' undeclared (first use in this function); did you mean 'TEST_NAME'?
12 rtems_test_begin(TEST_NAME, TEST_STATE);
13 ^~~~~~
14 TEST_NAME
15 ../../testsuite/include/rtems/bsd/test/default-network-init.h:195:30: note: each
  ↳ undeclared identifier is reported only once for each function it appears in
16
17 In file included from ../../testsuite/commands01/test_main.c:340:0:
18 ../../testsuite/include/rtems/bsd/test/default-init.h: In function 'Init':
19 ../../testsuite/include/rtems/bsd/test/default-init.h:48:31: error: 'TEST_STATE'
  ↳ undeclared (first use in this function); did you mean 'TEST_NAME'?
20 rtems_test_begin(TEST_NAME, TEST_STATE);
21 ^~~~~~
22 TEST_NAME
23 ../../testsuite/include/rtems/bsd/test/default-init.h:48:31: note: each
  ↳ undeclared identifier is reported only once for each function it appears in

```

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```

24
25 In file included from ../../testsuite/condvar01/test_main.c:404:0:
26 ../../testsuite/include/rtems/bsd/test/default-init.h: In function 'Init':
27 ../../testsuite/include/rtems/bsd/test/default-init.h:48:31: error: 'TEST_STATE'
  ↳ undeclared (first use in this function); did you mean 'TEST_NAME'?
28 rtems_test_begin(TEST_NAME, TEST_STATE);
29 ^~~~~~
30 TEST_NAME
31 ../../testsuite/include/rtems/bsd/test/default-init.h:48:31: note: each
  ↳ undeclared identifier is reported only once for each function it appears in
32
33 In file included from ../../testsuite/dhpcpd01/test_main.c:78:0:
34 ../../testsuite/include/rtems/bsd/test/default-network-init.h: In function 'Init':
35 ../../testsuite/include/rtems/bsd/test/default-network-init.h:195:30: error:
  ↳ 'TEST_STATE' undeclared (first use in this function); did you mean 'TEST_NAME'?
36 rtems_test_begin(TEST_NAME, TEST_STATE);
37 ^~~~~~
38 TEST_NAME
39 ../../testsuite/include/rtems/bsd/test/default-network-init.h:195:30: note: each
  ↳ undeclared identifier is reported only once for each function it appears in
40
41 In file included from ../../testsuite/crypto01/test_main.c:204:0:
42 ../../testsuite/include/rtems/bsd/test/default-init.h: In function 'Init':
43 ../../testsuite/include/rtems/bsd/test/default-init.h:48:31: error: 'TEST_STATE'
  ↳ undeclared (first use in this function); did you mean 'TEST_NAME'?
44 rtems_test_begin(TEST_NAME, TEST_STATE);
45 ^~~~~~
46 TEST_NAME
47 ../../testsuite/include/rtems/bsd/test/default-init.h:48:31: note: each
  ↳ undeclared identifier is reported only once for each function it appears in
48
49 In file included from ../../testsuite/dhpcpd02/test_main.c:55:0:
50 ../../testsuite/include/rtems/bsd/test/default-network-init.h: In function 'Init':
51 ../../testsuite/include/rtems/bsd/test/default-network-init.h:195:30: error:
  ↳ 'TEST_STATE' undeclared (first use in this function); did you mean 'TEST_NAME'?
52 rtems_test_begin(TEST_NAME, TEST_STATE);
53 ^~~~~~
54 TEST_NAME
55 ../../testsuite/include/rtems/bsd/test/default-network-init.h:195:30: note: each
  ↳ undeclared identifier is reported only once for each function it appears in
56
57 ../../testsuite/evdev01/init.c: In function 'Init':
58 ../../testsuite/evdev01/init.c:574:30: error: 'TEST_STATE' undeclared (first use
  ↳ in this function); did you mean 'TEST_NAME'?
59 rtems_test_begin(TEST_NAME, TEST_STATE);
60 ^~~~~~
61 TEST_NAME
62 ../../testsuite/evdev01/init.c:574:30: note: each undeclared identifier is
  ↳ reported only once for each function it appears in

```

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```

63
64 In file included from ../../testsuite/foobarcclient/test_main.c:283:0:
65 ../../testsuite/include/rtems/bsd/test/default-network-init.h: In function 'Init':
66 ../../testsuite/include/rtems/bsd/test/default-network-init.h:195:30: error:
   ↳ 'TEST_STATE' undeclared (first use in this function); did you mean 'TEST_NAME'?
67 rtems_test_begin(TEST_NAME, TEST_STATE);
68 ^~~~~~
69 TEST_NAME
70 ../../testsuite/include/rtems/bsd/test/default-network-init.h:195:30: note: each_
   ↳ undeclared identifier is reported only once for each function it appears in
71
72 In file included from ../../testsuite/foobarserver/test_main.c:227:0:
73 ../../testsuite/include/rtems/bsd/test/default-network-init.h: In function 'Init':
74 ../../testsuite/include/rtems/bsd/test/default-network-init.h:195:30: error:
   ↳ 'TEST_STATE' undeclared (first use in this function); did you mean 'TEST_NAME'?
75 rtems_test_begin(TEST_NAME, TEST_STATE);
76 ^~~~~~
77 TEST_NAME
78 ../../testsuite/include/rtems/bsd/test/default-network-init.h:195:30: note: each_
   ↳ undeclared identifier is reported only once for each function it appears in
79
80 ../../testsuite/epoch01/test_main.c:82:2: error: unknown type name 'rtems_test_
   ↳ parallel_context'
81 rtems_test_parallel_context base;
82 ^~~~~~
83 ../../testsuite/epoch01/test_main.c:100:11: error: unknown type name 'rtems_test_
   ↳ parallel_context'; did you mean 'rtems_assert_context'?
84 test_init(rtems_test_parallel_context *base, void *arg, size_t active_workers)
85 ^~~~~~
86 rtems_assert_context
87 ../../testsuite/epoch01/test_main.c:110:11: error: unknown type name 'rtems_test_
   ↳ parallel_context'; did you mean 'rtems_assert_context'?
88 test_fini(rtems_test_parallel_context *base, const char *name,

```

Author: Chris Johns 2020-08-13T08:47:07.000Z

The build log is showing:

```

1 + cd /build/rtems/releases/build/5.1-rc2/rtems-source-builder-5.1-rc2/
   ↳ rtems/build/rtems-libbsd-b96abfd647154f10ea8f7fac68e25676636eded5-x86_
   ↳ 64-freebsd12.1-1

```

This looks like the wrong branch or version is being packaged.

Author: Chris Johns 2020-08-13T11:57:05.000Z

It looks like the release to branch mapping in the release script is broken. This was added to handle the inconsistent branch naming in libbsd:

1 Package rtems-source-builder 5: master

The branch should be 5 not master.

Author: Chris Johns 2020-08-14T21:18:29.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Fix, the right branch is being used.

4.2.1.264 4049 - RTEMS version number 5.1 breaks RTEMS version code

Id	4049
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2020-08-13T03:08:27.000Z
Updated	2020-08-14T21:17:56.000Z
Milestone	5.1
Labels	priority::highest, resolution::fixed, rtems::build, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4049
Merges	0

The rtems.git code assumes major.minor.revision and changing it to version.revision breaks the configure processing to create the cpuopts.h file. For example using 5.1-rc2 as the version string results in:

```

1 In file included from /build/rtems/releases/build/5.1-rc2/rtems-source-builder-5.
  ↳ 1-rc2/rtems/build/arm-rtems5-kernel-beagleboneblack-1/arm-rtems5-kernel-
  ↳ beagleboneblack-1-5.1-rc2/rtems-5.1-rc2/cpukit/include/rtems/score/basedefs.
  ↳ h:31:0,
2 from /build/rtems/releases/build/5.1-rc2/rtems-source-builder-5.1-rc2/rtems/build/
  ↳ arm-rtems5-kernel-beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-5.1-rc2/
  ↳ rtems-5.1-rc2/cpukit/include/rtems/rtems/status.h:21,
3 from /build/rtems/releases/build/5.1-rc2/rtems-source-builder-5.1-rc2/rtems/build/
  ↳ arm-rtems5-kernel-beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-5.1-rc2/
  ↳ rtems-5.1-rc2/cpukit/include/rtems.h:29,
4 from ../../../../../../rtems-5.1-rc2/c/src/../../../../cpukit/sapi/src/version.c:27:
5 ../../../../../../rtems-5.1-rc2/c/src/../../../../cpukit/sapi/src/version.c: In function
  ↳ 'rtems_version_minor':
6 /build/rtems/releases/build/5.1-rc2/rtems-source-builder-5.1-rc2/rtems/build/arm-
  ↳ rtems5-kernel-beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-5.1-rc2/
  ↳ build/arm-rtems5/c/beagleboneblack/include/rtems/score/cpuopts.h:62:27: error:
  ↳ 'rc2' undeclared (first use in this function)
7 #define __RTEMS_MINOR__ 1-rc2
8 ^

```

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```

9 ../../../../../../rtems-5.1-rc2/c/src/../../../../cpukit/sapi/src/version.c:48:10: note:
  ↳in expansion of macro '__RTEMS_MINOR__'
10 return __RTEMS_MINOR__;
11 ^~~~~~
12 /build/rtems/releases/build/5.1-rc2/rtems-source-builder-5.1-rc2/rtems/build/arm-
  ↳rtems5-kernel-beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-5.1-rc2/
  ↳build/arm-rtems5/c/beagleboneblack/include/rtems/score/cpuopts.h:62:27: note:
  ↳each undeclared identifier is reported only once for each function it appears in
13 #define __RTEMS_MINOR__ 1-rc2
14 ^
15 ../../../../../../rtems-5.1-rc2/c/src/../../../../cpukit/sapi/src/version.c:48:10: note:
  ↳in expansion of macro '__RTEMS_MINOR__'
16 return __RTEMS_MINOR__;
17 ^~~~~~
18 ../../../../../../rtems-5.1-rc2/c/src/../../../../cpukit/sapi/src/version.c:49:1: warning:
  ↳control reaches end of non-void function [-Wreturn-type]
19 }
20 ^
21 gmake[4]: *** [Makefile:11437: sapi/src/version.o] Error 1

```

I suggest the release script adds the third digit. Note, this is a hack however given this point in the release anything else is too late.

Author: Chris Johns 2020-08-14T21:17:56.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

Fixed on the 5 branch of rtems-release.git.

4.2.1.265 2842 - Change C11 threads support to use Classic tasks instead of POSIX threads

Id	2842
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-12-16T16:22:43.000Z
Updated	2020-08-13T04:48:22.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2842
Merges	0

Original author: sebastian.huber

The C11 <threads.h> support should be available in all RTEMS configurations. Since the POSIX API is still optional the C11 threads implementation should be changed to use Classic tasks.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-05-11T07:42:40.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.0"

Author: Chris Johns 2017-08-14T00:13:17.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.0" to %"Indefinite"
- **Version** ~"4.11" deleted

Author: Joel Sherrill 2020-08-12T21:11:51.000Z

Original author: sebastian.huber

Can this be closed? I think we have our implementation from FreeBSD and are happy with it.

Author: Chris Johns 2020-08-13T01:42:07.000Z

Original author: sebastian.huber

Is the configure option for POSIX going to be removed in the waf build system?

Author: Trac Migrate 2020-08-13T04:46:37.000Z

Original author: sebastian.huber

Replying to [Chris Johns](#):

Is the configure option for POSIX going to be removed in the waf build system?

No, this CPU option exists also in the new build system.

Author: Trac Migrate 2020-08-13T04:48:22.000Z

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"5.1"

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*
- **Version** set to ~”4.11”

The POSIX thread support is always enabled in RTEMS 5.1. There is no need to change the implementation of C11 threads.

4.2.1.266 4014 - RSB RTEMS 5 Post Branch Clean

Id	4014
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-06-26T00:35:34.000Z
Updated	2020-08-12T03:09:26.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4014
Merges	0

Remove configuration and build set files from the RSB on the 5 branch that are not part of an RTEMS 5 release or are not referenced. This is a standard post release branch activity. For example removing the RTEMS 6 tool build set files.

Author: Trac Migrate 2020-08-12T01:40:33.000Z

In [changeset:"020c63fb5b661774029ae6e661f91fa095926fd2/rtems-source-builder" 020c63f/rtems-source-builder]:

```
1 rtems: Remove RTEMS 6 build sets.
2
3 Updates #4014
```

Author: Trac Migrate 2020-08-12T01:40:36.000Z

In [changeset:"673f9ad5c06b64dde8ceb2010c1189f10ffc32d5/rtems-source-builder" 673f9ad/rtems-source-builder]:

```
1 5: Remove unused configuration files for the release
2
3 Updates #4014
```

Author: Trac Migrate 2020-08-12T01:40:38.000Z

In [changeset:"4da24fb49033dbdade66f49e53cf5c6edafa900e/rtems-source-builder" 4da24fb/rtems-source-builder]:

```
1 bare/libusb: Fix the configuration and add a hash
2
3 Updates #4014
```

Author: Chris Johns 2020-08-12T03:09:26.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.267 4021 - PowerPC for libbsd does not build

Id	4021
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2020-06-30T07:48:12.000Z
Updated	2020-08-12T03:03:06.000Z
Milestone	5.1
Labels	libbsd, priority::high, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4021
Merges	1

Building a kernel and libbsd for the --with-rtems-bsp=mvme3100 libbsd fails with:

```
1 In file included from /build/rtems/releases/build/5.1.0-rc1/install/powerpc-
  ↳ rtems5/mvme3100/lib/include/bsp.h:27:0,
2 from ../../rtemsbsd/include/rtems/bsd/local/opt_usb.h:2,
3 from ../../freebsd/sys/dev/usb/usb.h:46,
4 from ../../freebsd/sys/dev/usb/usb_busdma.c:53:
5 /build/rtems/releases/build/5.1.0-rc1/install/powerpc-rtems5/mvme3100/lib/include/
  ↳ libcpu/io.h:53:20: error: redefinition of 'eieio'
6 static inline void eieio(void)
7 ^~~~~
8 In file included from ../../freebsd/sys/sys/systm.h:45:0,
9 from ../../freebsd/sys/dev/usb/usb_busdma.c:39:
10 ../../freebsd/sys/powerpc/include/machine/cpufunc.h:168:1: note: previous_
  ↳ definition of 'eieio' was here
11 eieio(void)
12 ^~~~~
13
14 In file included from ../../freebsd/sys/sys/systm.h:45:0,
15 from ../../rtemsbsd/sys/arm/at91/at91_mci.c:38:
16 ../../freebsd/sys/powerpc/include/machine/cpufunc.h:168:1: error: redefinition of
  ↳ 'eieio'
```

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```

17 eieio(void)
18 ^~~~~
19 In file included from /build/rtems/releases/build/5.1.0-rc1/install/powerpc-
   ↳ rtems5/mvme3100/lib/include/bsp.h:27:0,
20 from /build/rtems/releases/build/5.1.0-rc1/install/powerpc-rtems5/mvme3100/lib/
   ↳ include/bsp/fdt.h:18,
21 from ../../rtemsbsd/include/rtems/bsd/local/opt_platform.h:1,
22 from ../../rtemsbsd/sys/arm/at91/at91_mci.c:32:
23 /build/rtems/releases/build/5.1.0-rc1/install/powerpc-rtems5/mvme3100/lib/include/
   ↳ libcpu/io.h:53:20: note: previous definition of 'eieio' was here
24 static inline void eieio(void)
25 ^~~~~

```

This is using 5.1.0-rc1.

Author: Chris Johns 2020-06-30T07:49:56.000Z

- **Description** changed

```

1 Building a kernel and libbsd for the `--with-rtems-bsp=mvme3100` libbsd_
   ↳ fails with:
2 {{{
3 In file included from /build/rtems/releases/build/5.1.0-rc1/install/
   ↳ powerpc-rtems5/mvme3100/lib/include/bsp.h:27:0,
4 from ../../rtemsbsd/include/rtems/bsd/local/opt_usb.h:2,
5 from ../../freebsd/sys/dev/usb/usb.h:46,
6 from ../../freebsd/sys/dev/usb/usb_busdma.c:53:
7 /build/rtems/releases/build/5.1.0-rc1/install/powerpc-rtems5/mvme3100/
   ↳ lib/include/libcpu/io.h:53:20: error: redefinition of 'eieio'
8 static inline void eieio(void)
9 ^~~~~
10 In file included from ../../freebsd/sys/sys/systm.h:45:0,
11 from ../../freebsd/sys/dev/usb/usb_busdma.c:39:
12 ../../freebsd/sys/powerpc/include/machine/cpufunc.h:168:1: note: _
   ↳ previous definition of 'eieio' was here
13 eieio(void)
14 ^~~~~
15
16 In file included from ../../freebsd/sys/sys/systm.h:45:0,
17 from ../../rtemsbsd/sys/arm/at91/at91_mci.c:38:
18 ../../freebsd/sys/powerpc/include/machine/cpufunc.h:168:1: error: _
   ↳ redefinition of 'eieio'
19 eieio(void)
20 ^~~~~
21 In file included from /build/rtems/releases/build/5.1.0-rc1/install/
   ↳ powerpc-rtems5/mvme3100/lib/include/bsp.h:27:0,
22 from /build/rtems/releases/build/5.1.0-rc1/install/powerpc-rtems5/
   ↳ mvme3100/lib/include/bsp/fdt.h:18,
23 from ../../rtemsbsd/include/rtems/bsd/local/opt_platform.h:1,

```

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```

24 from ../../rtemsbsd/sys/arm/at91/at91_mci.c:32:
25 /build/rtems/releases/build/5.1.0-rc1/install/powerpc-rtems5/myme3100/
   ↳ lib/include/libcpu/io.h:53:20: note: previous definition of 'eieio'
   ↳ was here
26 static inline void eieio(void)
27 ^~~~~
28 }}}
29 + This is using `5.1.0-rc1`.

```

Author: Chris Johns 2020-07-25T05:50:55.000Z

There are a number of versions of `eieio` in RTEMS. The implementation in `io.h` is:

```
1 __asm__ __volatile__ ("eieio");
```

and the FreeBSD is:

```
1 __asm __volatile ("eieio" : : : "memory");
```

I am not sure about the specifics of needing the memory constraint but I wonder if it is something we should do? I do not know the PowerPC well enough to know the effect of having memory as a constraint.

Author: Trac Migrate 2020-07-27T04:42:09.000Z

The “memory” clobber is important. Without it this instruction makes little sense.

I think the real issue is the `<bsp.h>` includes `<libcpu/io.h>`.

We also have an `ppc_enforce_in_order_execution_of_io()` in `<libcpu/powerpc-utility.h>`.

Author: Chris Johns 2020-07-28T05:37:18.000Z

Replying to [Sebastian Huber](#):

The “memory” clobber is important. Without it this instruction makes little sense.

OK. I will add it.

I think the real issue is the `<bsp.h>` includes `<libcpu/io.h>`. We also have an `ppc_enforce_in_order_execution_of_io()` in `<libcpu/powerpc-utility.h>`.

There are a number of `eieio` instructions in various pieces of code. I have renamed the function in `io.h` and LibBSD builds. Given this is for a release I am looking to only make small changes.

Author: Trac Migrate 2020-08-12T03:03:06.000Z

- **Owner** set to Chris Johns <chrisj@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"5284e812e2c82466b3f3a21e494310d8cb69c7cd/rtems"5284e812/rtems]:

```
1 powerpc/io: The eieio() function clashes with FreeBSD. Change.
2
3 Closes #4021
```

4.2.1.268 4016 - shm_unlink uses uninitialized obj_err on successful return from _POSIX_Shmem_Get_by_name

Id	4016
State	closed
Type	ISSUE
Author	Kinsey Moore
Assignee(s)	Trac Migrate
Created	2020-06-28T00:18:51.000Z
Updated	2020-08-11T12:52:15.000Z
Milestone	5.1
Labels	api::posix, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4016
Merges	1

In the nominal case checked by spsysinit01, obj_err in shm_unlink is unmodified when _POSIX_Shmem_Get_by_name returns non-NULL. In the case of shm_unlink, this means an uninitialized value is passed into the switch and it appears this test was passing by virtue of the stack having the right value on it in most cases.

Author: Kinsey Moore 2020-08-06T18:45:47.000Z

The patches to fix this for 5.x and master have been posted to the mailing list for a while now.

Author: Chris Johns 2020-08-10T05:43:55.000Z

Can you please provide the links to the devel list archive for the post patches?

Author: Kinsey Moore 2020-08-10T11:47:50.000Z

Sure, this is the first patch posted for master back in January: <https://lists.rtems.org/pipermail/devel/2020-January/056993.html>

And this is the more recent patch posted for 5.x specifically for this issue: <https://lists.rtems.org/pipermail/devel/2020-June/060292.html>

Author: Chris Johns 2020-08-10T23:26:50.000Z

Thanks. Joel or someone who knows this part of the POSIX code is going to have to review these changes. I am working towards an RC2 so if the review is not done I will be forced to bump then to 5.2.

Author: Joel Sherrill 2020-08-11T12:33:12.000Z

These are OK to push to the 5 branch and master. According to the mailing list archives, Gedare did review and approve one.

Author: Trac Migrate 2020-08-11T12:48:50.000Z

- **Owner** set to Kinsey Moore <kinsey.moore@oarcorp.com>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"e95c00a79e891674ac4d9a9e43156abf3637463a/rtems" e95c00a7/rtems]:

```

1 posix: Only check shm_unlink obj_err if necessary
2
3 In the nominal case checked by spsysinit01, obj_err is unmodified if
4 _POSIX_Shm_Get_by_name returns non-NULL. In the case of shm_unlink,
5 ↪this means
6 an uninitialized value is passed into the switch and it appears tests
7 ↪using it
8 were passing by virtue of the stack having the right value on it in
9 ↪most cases.
10 This now checks obj_err only if _POSIX_Shm_Get_by_name returns NULL.
11
12 Close #4016

```

Author: Trac Migrate 2020-08-11T12:52:15.000Z

In [changeset:"14749c4515d760948c62ffdaee5cc9248cf32933/rtems" 14749c45/rtems]:

```

1 posix: Only check shm_unlink obj_err if necessary
2
3 In the nominal case checked by spsysinit01, obj_err is unmodified if

```

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```

4 _POSIX_Shmem_Get_by_name returns non-NULL. In the case of shm_unlink,
  ↳ this means
5 an uninitialized value is passed into the switch and it appears tests
  ↳ using it
6 were passing by virtue of the stack having the right value on it in
  ↳ most cases.
7 This now checks obj_err only if _POSIX_Shmem_Get_by_name returns NULL.
8
9 Close #4016

```

4.2.1.269 4033 - Add rtems_interrupt_server_create() and rtems_interrupt_server_destroy()

Id	4033
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-07-31T06:52:59.000Z
Updated	2020-08-05T05:01:10.000Z
Milestone	5.1
Labels	library, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4033
Merges	1

Original author: sebastian.huber

Currently, the only way to create interrupt servers is `rtems_interrupt_server_initialize()`. This function creates the default interrupt server and in SMP configurations additional interrupt servers for the additional processors. The interrupt server is heavily used by libbsd. This includes the epoch based reclamation which performs time consuming resource and memory deallocation work. This does not work well with time critical services, for example an UART over SPI or I2C. One approach to address this problem is to allow the application to create custom interrupt servers with the right priority and task properties. The interrupt server API accounted for this, however, it was not yet implemented.

Add `rtems_interrupt_server_create()` and `rtems_interrupt_server_destroy()` for this purpose.

Author: Trac Migrate 2020-08-01T09:55:44.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 Currently, the only way to create interrupt servers is rtems_interrupt_
  ↳ server_initialize(). This function creates the default interrupt
  ↳ server and in SMP configurations additional interrupt servers for the

```

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```

↪ additional processors. The interrupt server is heavily used by libbsd.
↪ This includes the epoch based reclamation which performs time_
↪ consuming resource and memory deallocation work. This does not work_
↪ well with time critical services, for example an UART over SPI or I2C.
↪ One approach to address this problem is to allow the application to_
↪ create custom interrupt servers with the right priority and task_
↪ properties. The interrupt server API accounted for this, however, it_
↪ was not yet implemented.
2
3 - Add rtems_interrupt_server_build() and rtems_interrupt_server_
  ↪ destroy() for this purpose.
4 ?                ^^^^^
5
6 + Add rtems_interrupt_server_create() and rtems_interrupt_server_
  ↪ destroy() for this purpose.
7 ?                ^^^^^

```

- **Summary** changed from *Add rtems_interrupt_server_build() and rtems_interrupt_server_destroy()* to *Add rtems_interrupt_server_create() and rtems_interrupt_server_destroy()*

Author: Trac Migrate 2020-08-03T06:51:58.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"5eb07731594fba04eedcbb72939abf3112a98bdb/rtems" 5eb07731/rtems]:

```

1 rtems: Add rtems_interrupt_server_create()
2
3 Add rtems_interrupt_server_destroy().
4
5 Before this patch, the only way to create interrupt servers was
6 rtems_interrupt_server_initialize(). This function creates the default
7 interrupt server and in SMP configurations additional interrupt servers
8 for the additional processors. The interrupt server is heavily used by
9 libbsd. This includes the epoch based reclamation which performs time
10 consuming resource and memory deallocation work. This does not work well
11 with time critical services, for example an UART over SPI or I2C. One
12 approach to address this problem is to allow the application to create
13 custom interrupt servers with the right priority and task properties.
14 The interrupt server API accounted for this, however, it was not
15 implemented before this patch.
16
17 Close #4033.

```

Author: Trac Migrate 2020-08-05T05:00:20.000Z

Original author: sebastian.huber

In [changeset:"534f9dbe1349e0077823aa6867007ae982194a50/rtems" 534f9dbe/rtems]:

```
1 arm/atsam: Make interrupt server configurable
2
3 The external UART over SPI device SC16IS752 uses the interrupt server
4 for interrupt processing. The interrupt server is also heavily used by
5 libbsd. The interrupt processing for the SC16IS752 is time critical and
6 doesn't work if network traffic is processed at the same priority.
7 With #4033 custom interrupt servers are available. Change
8 atsam_sc16is752_spi_create() to support user-defined interrupt servers.
9 Introduced atsam_sc16is752_spi_config to cut down the argument count of
10 this function.
11
12 Close #4038.
```

Author: Trac Migrate 2020-08-05T05:01:10.000Z

Original author: sebastian.huber

In [changeset:"1b42158588a90de815666f5924744d260cec70d7/rtems" 1b421585/rtems]:

```
1 arm/atsam: Make interrupt server configurable
2
3 The external UART over SPI device SC16IS752 uses the interrupt server
4 for interrupt processing. The interrupt server is also heavily used by
5 libbsd. The interrupt processing for the SC16IS752 is time critical and
6 doesn't work if network traffic is processed at the same priority.
7 With #4033 custom interrupt servers are available. Change
8 atsam_sc16is752_spi_create() to support user-defined interrupt servers.
9 Introduced atsam_sc16is752_spi_config to cut down the argument count of
10 this function.
11
12 Close #4039.
```

4.2.1.270 4038 - arm/atsam/SC16IS752: Make interrupt server configurable

Id	4038
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-08-03T07:41:35.000Z
Updated	2020-08-05T05:00:20.000Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4038
Merges	1

Original author: sebastian.huber

The external UART over SPI device SC16IS752 uses the interrupt server for interrupt processing. The interrupt server is also heavily used by libbsd. The interrupt processing for the SC16IS752 is time critical and doesn't work if network traffic is processed at the same priority. With [#4033](#) custom interrupt servers are available. Change `atsam_sc16is752_spi_create()` to support user-defined interrupt servers. Introduced `atsam_sc16is752_spi_config` to cut down the argument count of this function.

Author: Trac Migrate 2020-08-05T05:00:20.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"534f9dbe1349e0077823aa6867007ae982194a50/rtems" 534f9dbe/rtems]:

```

1 arm/atsam: Make interrupt server configurable
2
3 The external UART over SPI device SC16IS752 uses the interrupt server
4 for interrupt processing. The interrupt server is also heavily used by
5 libbsd. The interrupt processing for the SC16IS752 is time critical and
6 doesn't work if network traffic is processed at the same priority.
7 With #4033 custom interrupt servers are available. Change
8 atsam_sc16is752_spi_create() to support user-defined interrupt servers.
9 Introduced atsam_sc16is752_spi_config to cut down the argument count of
10 this function.
11
12 Close #4038.
```

4.2.1.271 4030 - i386: ISR can overwrite its own stack during system initialization

Id	4030
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-07-22T12:38:02.000Z
Updated	2020-07-29T09:41:18.000Z
Milestone	5.1
Labels	arch:i386, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4030
Merges	1

Original author: soja

During testing the rtems-libbsd examples, we experienced GP exceptions from within the ISR from time to time during initialization.

When the init task is restored for the first time and the a pending interrupt is available, an ISR could overwrite its own return address if it is spawned between restoring the eflags register and restoring the esp register.

Author: Trac Migrate 2020-07-29T09:41:18.000Z

Original author: soja

- **Owner** set to Jan Sommer <jan.sommer@dlr.de>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"849d741832cd61c31c438b9b15c2cb43235719fe/rtems" 849d7418/rtems]:

```

1 i386: Fix possible race condition on first context restore
2
3 Make sure that the esp is restored before the eflags register.
4
5 When the init task is initially restored, system interrupts are
  ↪ activated when the
6 eflags register is loaded.
7 If the esp register still points to an address in the interrupt stack
8 area (from early system initialization) the ISR might overwrite its own
9 stack.
10
11 Closes #4030

```


4.2.1.272 3020 - Review tests using CONFIGURE_DISABLE_SMP_CONFIGURATION

Id	3020
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-05-12T08:43:27.000Z
Updated	2020-07-17T09:22:42.000Z
Milestone	5.1
Labels	priority::normal, resolution::invalid, rtems::testing, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3020
Merges	0

Original author: sebastian.huber

Some tests need CONFIGURE_DISABLE_SMP_CONFIGURATION to work correctly on SMP configurations. These tests must be reviewed. There should be a comment why this option is necessary or they should be changed to not use features unavailable on SMP, e.g. disabled preemption or an interrupt level mode > 0.

Author: Chris Johns 2017-08-14T00:55:55.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.0" to %"4.12.0"

Please review and update the milestone. Thanks.

Author: Joel Sherrill 2017-10-12T00:28:30.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Refer to <https://lists.rtems.org/pipermail/devel/2017-May/017784.html>

testsuites/testdata can be enhanced to know that these tests fail on SMP. This would make a master list of the tests. Longer term, the tests need to be reviewed for underlying cause. If it is a specific SMP unsafe operation, then split that into a different test.

Author: Trac Migrate 2017-10-12T11:15:27.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"Indefinite"

Author: Trac Migrate 2017-11-16T14:29:34.000Z

Original author: sebastian.huber

In [changeset:"e24d64b77d67dd4e894c74f9378f09f6b77ee559/rtems" e24d64b/rtems]:

```
1 psx05: Remove CONFIGURE_DISABLE_SMP_CONFIGURATION
2
3 Update #3020.
```

Author: Trac Migrate 2017-12-01T13:23:07.000Z

Original author: sebastian.huber

In [changeset:"c589775aea25afa67b8c3076a385967b724fea93/rtems" c589775a/rtems]:

```
1 ada: Use CONFIGURE_DISABLE_SMP_CONFIGURATION
2
3 Most Ada tests fail otherwise.
4
5 Update #3020.
```

Author: Trac Migrate 2020-07-17T09:22:42.000Z

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"5.1"
- **Resolution** set to ~"invalid"
- **Status** changed from *assigned* to *closed*

This configuration options was removed in RTEMS 5.1.

4.2.1.273 4017 - RSB -host and -target option trigger the bset tarball

Id	4017
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-06-29T09:19:36.000Z
Updated	2020-06-30T08:04:35.000Z
Milestone	5.1
Labels	priority::high, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4017
Merges	0

Deep in the set builder is an old piece of logic to trigger tarballs when in a cross-compile environment. This dates back to cross-compiling tool sets.

The adding the kernel and 3rd party packages means the RSB command line can have the `--host` and `--target` options and if the kernel and a package like libbsd are on a single command line the `--host` and `--target` trigger a tarball install and this breaks the build.

Fix:

- Remove the tarball trigger.
- Check the kernel and packages are not effected. Having both may break a package build if passed automatically to a configure command line.

Author: Trac Migrate 2020-06-30T08:04:35.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"9b1545f1461a4741f3cb53528495d89b72cb5036/rtems-source-builder" 9b1545f/rtems-source-builder]:

```
1 sb/options: A Canadian Cross is a different host, build and target
2
3 The check must make sure each is different.
4
5 Closes #4017
```

4.2.1.274 4015 - Sqlite has stopped http access

Id	4015
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-06-26T01:47:42.000Z
Updated	2020-06-26T01:55:34.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4015
Merges	0

The SQLite website has stopped serving http requests. Change to https.

Author: Trac Migrate 2020-06-26T01:55:34.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"6537f4bda446e4c7d0c47ca2dc128dec149972e1/rtems-source-builder" 6537f4b/rtems-source-builder]:

```
1 sqlite: Change to https for downloading the source package.
2
3 Closes #4015
```

4.2.1.275 4010 - Update mDNSResponder to Apple version v878.30.4

Id	4010
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-06-19T10:58:40.000Z
Updated	2020-06-23T16:23:20.000Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4010
Merges	0

Original author: sebastian.huber

Download

- mDNSResponder-878.50.17.tar.gz
- mDNSResponder-878.70.2.tar.gz
- mDNSResponder-878.200.35.tar.gz
- mDNSResponder-878.230.2.tar.gz
- mDNSResponder-878.240.1.tar.gz
- mDNSResponder-878.250.4.tar.gz
- mDNSResponder-878.260.1.tar.gz
- mDNSResponder-878.270.2.tar.gz

from

<https://opensource.apple.com/tarballs/mDNSResponder/>

Merge each update into libbsd/mDNSResponder.

These updates may contain security bug fixes.

Author: Trac Migrate 2020-06-19T11:23:39.000Z

Original author: sebastian.huber

- **Summary** changed from *Update mDNSResponder to Apple version v878.30.4 (cloned)* to *Update mDNSResponder to Apple version v878.30.4*

Author: Trac Migrate 2020-06-23T16:23:20.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Changes are included in 5-freebsd-12 and master branch.

4.2.1.276 4006 - rtems-test target_exe_filter fails when there is no filter

Id	4006
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2020-06-16T22:42:22.000Z
Updated	2020-06-16T22:43:34.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/4006
Merges	0

If a BSP does not have a `target_exe_filter` the executable file name to load is set to None and the load fails.

Author: Trac Migrate 2020-06-16T22:43:34.000Z

- **Owner** set to Chris Johns <chrisj@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"4f5485eb51ffd7e091d92e3f95b720a9238c75fb/rtems-tools" 4f5485e/rtems-tools]:

```

1 rtems-test: target_exe_filter fails when there is no filter
2
3 Closes #4006
```

4.2.1.277 4002 - Beaglebone and PC BSP stacks do not build

Id	4002
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2020-06-10T23:41:56.000Z
Updated	2020-06-15T07:33:45.000Z
Milestone	5.1
Labels	bsp, priority::highest, resolution::invalid, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/4002
Merges	0

The Beaglebone and PC BSPs do not build with the RSB master (42b7e8a4faa4a4601a69da78e02092ebdb81b7d9). These are the only two BSPs I have tried.

The build fails on the first package (sqlite). The sqlite standard autoconf configure compiler test fails with a number of missing symbols.

```

1 /opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/
  ↪ bin/arm-rtems5-gcc \
2 -qrtems -B/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-
  ↪ 500-staging/arm-rtems5/lib/ \
3 -B/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-
  ↪ staging/arm-rtems5/beagleboneblack/lib/ \
4 --specs bsp_specs -mcpu=cortex-a8 -O2 -g -ffunction-sections -fdata-sections \
5 -DSQLITE_MAX_MMAP_SIZE=0 -DSQLITE_DEFAULT_LOCKING_MODE=1 -DSQLITE_ENABLE_MEMSYS5 \
  ↪ \
6 -I/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-
  ↪ staging/arm-rtems5/beagleboneblack/lib/include \
7 -L/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-
  ↪ staging/arm-rtems5/beagleboneblack/lib \
8 -mcpu=cortex-a8 -Wl,--gc-sections \
9 -L/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500/
  ↪ databases/sqlite/opt/work/rtems/5/lib \
10 conftest.c
11 /opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/
  ↪ bin/./lib/gcc/arm-rtems5/7.5.0/././././././arm-rtems5/bin/ld: /opt/work/chris/
  ↪ rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/arm-rtems5/
  ↪ beagleboneblack/lib/start.o: in function `bsp_start_hook_0_done':
12 /opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/arm-rtems5-kernel-
  ↪ beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-
  ↪ 153b26699ee10eb760816ca0d030fe4cd80e1ce7/build/arm-rtems5/c/beagleboneblack/lib/
  ↪ libbsp/arm/beagle/./././././././././././rtems-
  ↪ 153b26699ee10eb760816ca0d030fe4cd80e1ce7/c/src/lib/libbsp/arm/beagle/./././././
  ↪ ././././bsps/arm/shared/start/start.S:202: undefined reference to `_ISR_Stack_
  ↪ size'
13 /opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/

```

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```

↪bin/./lib/gcc/arm-rtems5/7.5.0/././././././arm-rtems5/bin/ld: /opt/work/chris/
↪rtems/rsb/rtems-source-builder.git/rtems/build/arm-rtems5-kernel-
↪beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/build/arm-rtems5/c/beagleboneblack/lib/
↪libbsp/arm/beagle/./././././././././././rtems-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/c/src/lib/libbsp/arm/beagle/././././././
↪./././bsps/arm/shared/start/start.S:207: undefined reference to `_ISR_Stack_
↪area_begin'
14 /opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/
↪bin/./lib/gcc/arm-rtems5/7.5.0/././././././arm-rtems5/bin/ld: /opt/work/chris/
↪rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/arm-rtems5/
↪beagleboneblack/lib/librtemsbsp.a(bbb-i2c.o): in function `am335x_i2c_transfer':
15 /opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/arm-rtems5-kernel-
↪beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/build/arm-rtems5/c/beagleboneblack/lib/
↪libbsp/arm/beagle/./././././././././././rtems-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/c/src/lib/libbsp/arm/beagle/././././././
↪./././bsps/arm/beagle/i2c/bbb-i2c.c:358: undefined reference to `_Watchdog_
↪Microseconds_per_tick'
16 /opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/
↪bin/./lib/gcc/arm-rtems5/7.5.0/././././././arm-rtems5/bin/ld: /opt/work/chris/
↪rtems/rsb/rtems-source-builder.git/rtems/build/arm-rtems5-kernel-
↪beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/build/arm-rtems5/c/beagleboneblack/lib/
↪libbsp/arm/beagle/./././././././././././rtems-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/c/src/lib/libbsp/arm/beagle/././././././
↪./././bsps/arm/beagle/i2c/bbb-i2c.c:399: undefined reference to `_Watchdog_
↪Microseconds_per_tick'
17 /opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/
↪bin/./lib/gcc/arm-rtems5/7.5.0/././././././arm-rtems5/bin/ld: /opt/work/chris/
↪rtems/rsb/rtems-source-builder.git/rtems/build/arm-rtems5-kernel-
↪beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/build/arm-rtems5/c/beagleboneblack/lib/
↪libbsp/arm/beagle/./././././././././././rtems-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/c/src/lib/libbsp/arm/beagle/././././././
↪./././bsps/arm/beagle/i2c/bbb-i2c.c:428: undefined reference to `_Watchdog_
↪Microseconds_per_tick'
18 /opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/
↪bin/./lib/gcc/arm-rtems5/7.5.0/././././././arm-rtems5/bin/ld: /opt/work/chris/
↪rtems/rsb/rtems-source-builder.git/rtems/build/arm-rtems5-kernel-
↪beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/build/arm-rtems5/c/beagleboneblack/lib/
↪libbsp/arm/beagle/./././././././././././rtems-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/c/src/lib/libbsp/arm/beagle/././././././
↪./././bsps/arm/beagle/i2c/bbb-i2c.c:428: undefined reference to `_Watchdog_
↪Microseconds_per_tick'
19 /opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/
↪bin/./lib/gcc/arm-rtems5/7.5.0/././././././arm-rtems5/bin/ld: /opt/work/chris/
↪rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/arm-rtems5/

```

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```

20 ↪beagleboneblack/lib/librtemscpu.a(i2c-bus.o): in function `i2c_bus_ioctl':
↪/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/arm-rtems5-kernel-
↪beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/build/arm-rtems5/c/beagleboneblack/
↪cpukit/../../../../rtems-153b26699ee10eb760816ca0d030fe4cd80e1ce7/c/src/...
↪cpukit/dev/i2c/i2c-bus.c:167: undefined reference to `_Watchdog_Microseconds_
↪per_tick'
21 ↪/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/
↪bin/./lib/gcc/arm-rtems5/7.5.0/../../../../arm-rtems5/bin/ld: /opt/work/chris/
↪rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/arm-rtems5/
↪beagleboneblack/lib/librtemscpu.a(i2c-bus.o):/opt/work/chris/rtems/rsb/rtems-
↪source-builder.git/rtems/build/arm-rtems5-kernel-beagleboneblack-1/arm-rtems5-
↪kernel-beagleboneblack-1-153b26699ee10eb760816ca0d030fe4cd80e1ce7/build/arm-
↪rtems5/c/beagleboneblack/cpukit/../../../../rtems-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/c/src/.../cpukit/dev/i2c/i2c-bus.
↪c:167: more undefined references to `_Watchdog_Microseconds_per_tick' follow
22 ↪/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/
↪bin/./lib/gcc/arm-rtems5/7.5.0/../../../../arm-rtems5/bin/ld: /opt/work/chris/
↪rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/arm-rtems5/
↪beagleboneblack/lib/librtemscpu.a(threadsetstate.o): in function `_Scheduler_
↪Block':
23 ↪/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/arm-rtems5-kernel-
↪beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/rtems-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/cpukit/include/rtems/score/
↪schedulerimpl.h:287: undefined reference to `_Scheduler_Table'
24 ↪/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/
↪bin/./lib/gcc/arm-rtems5/7.5.0/../../../../arm-rtems5/bin/ld: /opt/work/chris/
↪rtems/rsb/rtems-source-builder.git/rtems/build/arm-rtems5-kernel-
↪beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/rtems-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/cpukit/include/rtems/score/
↪schedulerimpl.h:287: undefined reference to `_Scheduler_Table'
25 ↪/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/
↪bin/./lib/gcc/arm-rtems5/7.5.0/../../../../arm-rtems5/bin/ld: /opt/work/chris/
↪rtems/rsb/rtems-source-builder.git/rtems/build/arm-rtems5-kernel-
↪beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/rtems-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/cpukit/include/rtems/score/
↪schedulerimpl.h:287: undefined reference to `_Scheduler_Table'
26 ↪/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/
↪bin/./lib/gcc/arm-rtems5/7.5.0/../../../../arm-rtems5/bin/ld: /opt/work/chris/
↪rtems/rsb/rtems-source-builder.git/rtems/build/arm-rtems5-kernel-
↪beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/rtems-
↪153b26699ee10eb760816ca0d030fe4cd80e1ce7/cpukit/include/rtems/score/
↪schedulerimpl.h:287: undefined reference to `_Scheduler_Table'
27 ↪/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/
↪bin/./lib/gcc/arm-rtems5/7.5.0/../../../../arm-rtems5/bin/ld: /opt/work/chris/

```

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```

↪ rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/arm-rtems5/
↪ beagleboneblack/lib/librtemscpu.a(threadyield.o): in function `__Scheduler_Yield
↪ ':
28 /opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/arm-rtems5-kernel-
↪ beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-
↪ 153b26699ee10eb760816ca0d030fe4cd80e1ce7/rtems-
↪ 153b26699ee10eb760816ca0d030fe4cd80e1ce7/cpukit/include/rtems/score/
↪ schedulerimpl.h:225: undefined reference to `__Scheduler_Table'
29 /opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/
↪ bin/./lib/gcc/arm-rtems5/7.5.0/././././././arm-rtems5/bin/ld: /opt/work/chris/
↪ rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/arm-rtems5/
↪ beagleboneblack/lib/librtemscpu.a(threadyield.o):/opt/work/chris/rtems/rsb/
↪ rtems-source-builder.git/rtems/build/arm-rtems5-kernel-beagleboneblack-1/arm-
↪ rtems5-kernel-beagleboneblack-1-153b26699ee10eb760816ca0d030fe4cd80e1ce7/rtems-
↪ 153b26699ee10eb760816ca0d030fe4cd80e1ce7/cpukit/include/rtems/score/
↪ schedulerimpl.h:225: more undefined references to `__Scheduler_Table' follow
30 /opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/
↪ bin/./lib/gcc/arm-rtems5/7.5.0/././././././arm-rtems5/bin/ld: /opt/work/chris/
↪ rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-500-staging/arm-rtems5/
↪ beagleboneblack/lib/librtemscpu.a(userextiterate.o): in function `__User_
↪ extensions_Iterate':
31 /opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/arm-rtems5-kernel-
↪ beagleboneblack-1/arm-rtems5-kernel-beagleboneblack-1-
↪ 153b26699ee10eb760816ca0d030fe4cd80e1ce7/build/arm-rtems5/c/beagleboneblack/
↪ cpukit/./././././././rtems-153b26699ee10eb760816ca0d030fe4cd80e1ce7/c/src/././
↪ cpukit/score/src/userextiterate.c:167: undefined reference to `__User_
↪ extensions_Initial_count'
32 [snip]

```

Removing the `-Wl,--gc-sections` argument from the command line works.

It seems there is conflict between the flags ``-Wl,-gc-sections`` for LibBSD to link and how autoconf link tests are constructed.

I would like this ticket to only be closed when the Beaglebone and PC BSP stacks build with the RSB git master and a release snapshot on Linux and FreeBSD.

Author: Trac Migrate 2020-06-15T05:15:20.000Z

I cannot reproduce this problem with the following command:

```

1 ../source-builder/sb-set-builder --prefix=/build/rtems/5.1 --no-clean 5/
↪ bsp/pc
2 ...
3 reporting: net/protobuf-2.6.1-1.cfg -> protobuf-2.6.1-i386-rtems5-1.txt
4 reporting: net/protobuf-2.6.1-1.cfg -> protobuf-2.6.1-i386-rtems5-1.xml
5 staging: protobuf-2.6.1-i386-rtems5-1 -> /scratch/git-rtems-source-
↪ builder/rtems/build/tmp/sb-10000-staging
6 Build Set: Time 0:00:41.351672
7 Build Set: Time 0:03:56.786477

```

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```

8 installing: 5/bsps/pc -> /build/rtems/5.1
9 Staging Size: 1.387GB
10 Build Set: Time 0:25:46.568974

```

Which command line option did you use? Was something installed in the prefix?
Was the build directory clean?

Author: Trac Migrate 2020-06-15T06:28:23.000Z

This works also:

```

1 ../source-builder/sb-set-builder --prefix=/build/rtems/5.1 --no-clean 5/
  ↪bsps/beagleboneblack
2 ...
3 reporting: net/protobuf-2.6.1-1.cfg -> protobuf-2.6.1-arm-rtems5-1.txt
4 reporting: net/protobuf-2.6.1-1.cfg -> protobuf-2.6.1-arm-rtems5-1.xml
5 staging: protobuf-2.6.1-arm-rtems5-1 -> /scratch/git-rtems-source-
  ↪builder/rtems/build/tmp/sb-10000-staging
6 Build Set: Time 0:00:42.319813
7 Build Set: Time 0:04:07.640366
8 installing: 5/bsps/beagleboneblack -> /build/rtems/5.1
9 Staging Size: 3.267GB
10 Build Set: Time 0:42:13.692753

```

I have a different Autoconf command line:

```

1 configure:3322: checking whether the C compiler works
2 configure:3344: arm-rtems5-gcc -qrtems -B/scratch/git-rtems-source-
  ↪builder/rtems/build/tmp/sb-10000-staging/arm-rtems5/lib/ -B/scratch/
  ↪git-rtems-source-builder/rtems/build/tmp/sb-10000-staging/arm-rtems5/
  ↪beagleboneblack/lib/ --specs bsp_specs -mcpu=cortex-a8 -O2 -g -
  ↪ffunction-sections -fdata-sections -DSQLITE_MAX_MMAP_SIZE=0 -DSQLITE_
  ↪DEFAULT_LOCKING_MODE=1 -DSQLITE_ENABLE_MEMSYS5 -I/scratch/git-rtems-
  ↪source-builder/rtems/build/tmp/sb-10000-staging/arm-rtems5/
  ↪beagleboneblack/lib/include -L/scratch/git-rtems-source-builder/rtems/
  ↪build/tmp/sb-10000-staging/arm-rtems5/beagleboneblack/lib -
  ↪mcpu=cortex-a8 -Wl,--gc-sections -L/scratch/git-rtems-source-
  ↪builder/rtems/build/tmp/sb-10000/databases/sqlite/build/rtems/5.1/lib_
  ↪conftest.c -lbsd -lm -lz -lrtemsdefaultconfig

```

Please note that there is an `-lrtemsdefaultconfig` which I don't see in the original report.

Author: Chris Johns 2020-06-15T06:31:49.000Z

Replying to [Sebastian Huber](#):

I cannot reproduce this problem with the following command: {{{
../source-builder/sb-set-builder --prefix=/build/rtems/5.1 --no-clean

```
5/bsps/pc ... reporting: net/protobuf-2.6.1-1.cfg -> protobuf-2.6.1-
i386-rtems5-1.txt reporting: net/protobuf-2.6.1-1.cfg -> protobuf-
2.6.1-i386-rtems5-1.xml staging: protobuf-2.6.1-i386-rtems5-1 ->
/scratch/git-rtems-source-builder/rtems/build/tmp/sb-10000-staging
Build Set: Time 0:00:41.351672 Build Set: Time 0:03:56.786477
installing: 5/bsps/pc -> /build/rtems/5.1 Staging Size: 1.387GB Build
Set: Time 0:25:46.568974 }}} Which command line option did you
use?
```

```
RTEMS Source Builder - Set Builder, 5 (42b7e8a4faa4
modified) Command Line: ../source-builder/sb-set-builder
-prefix=/opt/work/rtems/5-test -log=i386.txt -trace 5/bsps/pc
```

(the modification is unrelated)

Was something installed in the prefix?

Yes and no and both failed.

Was the build directory clean?

Yes.

Author: Chris Johns 2020-06-15T06:33:09.000Z

Replying to [Sebastian Huber](#):

```
I have a different Autoconf command line: {{{ configure:3322: check-
ing whether the C compiler works configure:3344: arm-rtems5-gcc
-qrtms -B/scratch/git-rtems-source-builder/rtems/build/tmp/sb-
10000-staging/arm-rtems5/lib/ -B/scratch/git-rtems-
source-builder/rtems/build/tmp/sb-10000-staging/arm-
rtems5/beagleboneblack/lib/ -specs bsp_specs -mcpu=cortex-a8 -O2 -g
-ffunction-sections -fdata-sections -DSQLITE_MAX_MMAP_SIZE=0
-DSQLITE_DEFAULT_LOCKING_MODE=1 -
DSQLITE_ENABLE_MEMSYS5 -I/scratch/git-rtems-
source-builder/rtems/build/tmp/sb-10000-staging/arm-
rtems5/beagleboneblack/lib/include -L/scratch/git-rtems-
source-builder/rtems/build/tmp/sb-10000-staging/arm-
rtems5/beagleboneblack/lib -mcpu=cortex-a8 -Wl,-gc-sections
-L/scratch/git-rtems-source-builder/rtems/build/tmp/sb-
10000/databases/sqlite/build/rtems/5.1/lib conftest.c -lbsd -lm -lz
-lrtemsdefaultconfig }}} Please note that there is an -lrtemsdefaultconfig
which I don't see in the original report.
```

Where does that library get inserted into the libraries list for an autoconf test link?

Author: Trac Migrate 2020-06-15T06:37:40.000Z

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

I have a different Autoconf command line: {{{
 configure:3322: checking whether the C compiler
 works configure:3344: arm-rtems5-gcc -qrtems -
 B/scratch/git-rtems-source-builder/rtems/build/tmp/sb-
 10000-staging/arm-rtems5/lib/ -B/scratch/git-
 rtems-source-builder/rtems/build/tmp/sb-10000-
 staging/arm-rtems5/beagleboneblack/lib/ -specs
 bsp_specs -mcpu=cortex-a8 -O2 -g -ffunction-
 sections -fdata-sections -DSQLITE_MAX_MMAP_SIZE=0
 -DSQLITE_DEFAULT_LOCKING_MODE=1 -
 SQLITE_ENABLE_MEMSYS5 -I/scratch/git-
 rtems-source-builder/rtems/build/tmp/sb-10000-
 staging/arm-rtems5/beagleboneblack/lib/include -
 L/scratch/git-rtems-source-builder/rtems/build/tmp/sb-
 10000-staging/arm-rtems5/beagleboneblack/lib -
 mcpu=cortex-a8 -Wl,-gc-sections -L/scratch/git-
 rtems-source-builder/rtems/build/tmp/sb-
 10000/databases/sqlite/build/rtems/5.1/lib conftest.c
 -lbsd -lm -lz -lrtemsdefaultconfig }}} Please note that there
 is an -lrtemsdefaultconfig which I don't see in the original
 report.

Where does that library get inserted into the libraries list
 for an autoconf test link? I have an unmodified RSB
 (cbae90a5817a6b66f8d576b7e95c7df46c5f0833).

Author: Trac Migrate 2020-06-15T06:43:07.000Z

We have:

```

1 #
2 # Check for installed libraries.
3 #
4 # - Check is LibBSD is install
5 # - Add librtemsdefaultconfig so configure scripts work.
6 #
7 # Note: default BSP flags include the standard RTEMS libraries.
8 #
9 %define rtems-dep-check %{_sbindir}/sb/rtems-build-dep -c %{with_tools}/
  ↪bin/%{rtems_bsp_cc}
10
11 %define rtems-libbsd %{rtems-dep-check} -L %{rtems_bsp_libpath} -l_
  ↪libbsd.a)
12 %if %{rtems-libbsd} == found
13 %define rtems_bsp_libs %{rtems_bsp_libs} -lbsd -lm -lz
14 %endif
15
16 %define rtems-defaultconfig %{rtems-dep-check} -L %{rtems_bsp_libpath} -
  ↪l librtemsdefaultconfig.a)
17 %if %{rtems-defaultconfig} == found

```

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```

18 %define rtems_bsp_libs %{rtems_bsp_libs} -lrtemsdefaultconfig
19 %endif

```

Maybe there is an issue with the macro evaluation on your system. I don't see the -lbsd -lm -lz in your report also.

Author: Chris Johns 2020-06-15T06:43:29.000Z

Replying to [Sebastian Huber](#):

Replying to [Chris Johns](#):

Replying to [Sebastian Huber](#):

I have a different Autoconf command line:

```

1  configure:3322: checking whether the C_
   ↪ compiler works
2  configure:3344: arm-rtems5-gcc -qrtems -
   ↪ B/scratch/git-rtems-source-builder/rtems/
   ↪ build/tmp/sb-10000-staging/arm-rtems5/
   ↪ lib/ -B/scratch/git-rtems-source-builder/
   ↪ rtems/build/tmp/sb-10000-staging/arm-
   ↪ rtems5/beagleboneblack/lib/ --specs bsp_
   ↪ specs -mcpu=cortex-a8 -O2 -g -ffunction-
   ↪ sections -fdata-sections -DSQLITE_MAX_
   ↪ MMAP_SIZE=0 -DSQLITE_DEFAULT_LOCKING_
   ↪ MODE=1 -DSQLITE_ENABLE_MEMSYS5 -I/
   ↪ scratch/git-rtems-source-builder/rtems/
   ↪ build/tmp/sb-10000-staging/arm-rtems5/
   ↪ beagleboneblack/lib/include -L/scratch/
   ↪ git-rtems-source-builder/rtems/build/tmp/
   ↪ sb-10000-staging/arm-rtems5/
   ↪ beagleboneblack/lib -mcpu=cortex-a8 -
   ↪ Wl,--gc-sections -L/scratch/git-rtems-
   ↪ source-builder/rtems/build/tmp/sb-10000/
   ↪ databases/sqlite/build/rtems/5.1/lib_
   ↪ conftest.c -lbsd -lm -lz -
   ↪ lrtemsdefaultconfig
3  }}}
4  Please note that there is an -
   ↪ lrtemsdefaultconfig which I don't see in_
   ↪ the original report.
5
6
7  Where does that library get inserted into_
   ↪ the libraries list for an autoconf test_
   ↪ link?
8
9  This library is a requirement for `rtems-

```

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```

↪ libbsd`. The check is in `rtems/rtems-
↪ bsp.cfg`. I wonder is this test is_
↪ broken ...
10 {{{
11 %define rtems-defaultconfig %{rtems-dep-
↪ check} -L %{rtems_bsp_libpath} -l_
↪ librtemsdefaultconfig.a)
12 %if %{rtems-defaultconfig} == found
13 %define rtems_bsp_libs %{rtems_bsp_libs} -
↪ lrtemsdefaultconfig
14 %endif

```

I have an unmodified RSB
(cbae90a5817a6b66f8d576b7e95c7df46c5f0833).

The only difference is the RTEMS 6 tools update.

Author: Chris Johns 2020-06-15T06:59:44.000Z

Replying to [Chris Johns](#):

(the modification is unrelated)

I think it is related. The effect of looking for the reason the libcurl does not build for Joel effected the output of the dep check script and that effected this test.

Checking and adding the -lrtemsdefaultconfig is OK for building rtems-libbsd dependent packages because any executables created when building those packages cannot and will never run if loaded onto a target.

I am building with the same git hash as you, that is master.

Author: Chris Johns 2020-06-15T07:33:45.000Z

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

I am not seeing any error now. This is a error generated by me when looking into [#3985](#).

4.2.1.278 3976 - Released RSB qemu4 source download fails.

Id	3976
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-05-09T00:43:47.000Z
Updated	2020-06-10T05:00:09.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3976
Merges	0

The RSB attempts to download:

<https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m2005-2/sources/qemu-git-42d58e7.tar.xz>

and the release process has captured:

```
1 qemu-4.1.0-leon3.patch
2 qemu-couverture-03a7fbcce52e0bca7f033ccba79e7856e82bb437.tar.gz
3 qemu-git-v4.1.0.tar.xz
```

Author: Chris Johns 2020-06-10T00:32:21.000Z

I have fixed the RSB scripts so the release source is referenced and I am now getting this message from QEMU:

```
1 + PKG_CONFIG_DEFAULT_PATH=' ' PKG_CONFIG_PATH=/build/rtems/releases/
   ↳ build/5.0.0-m2006-1/rtems-source-builder-5.0.0-m2006-1/bare/build/tmp/
   ↳ sb-500/devel/qemu4/build/rtems/releases/install/5.0.0-m2006-1/lib/
   ↳ pkgconfig PKG_CONFIG_BUILD_TOP_DIR=/build/rtems/releases/build/5.0.0-
   ↳ m2006-1/rtems-source-builder-5.0.0-m2006-1/bare/build/tmp/sb-500/
   ↳ devel/qemu4 LD_LIBRARY_PATH=/build/rtems/releases/build/5.0.0-m2006-1/
   ↳ rtems-source-builder-5.0.0-m2006-1/bare/build/tmp/sb-500/devel/qemu4/
   ↳ build/rtems/releases/install/5.0.0-m2006-1/lib LDFLAGS='-Wl,-rpath -
   ↳ Wl,/build/rtems/releases/install/5.0.0-m2006-1/lib -L/build/rtems/
   ↳ releases/build/5.0.0-m2006-1/rtems-source-builder-5.0.0-m2006-1/bare/
   ↳ build/tmp/sb-500/devel/qemu4/build/rtems/releases/install/5.0.0-m2006-
   ↳ 1/lib ' CFLAGS=' ' ../qemu-git-v4.1.0/configure '--prefix=/build/
   ↳ rtems/releases/install/5.0.0-m2006-1' '--make=gmake' --disable-werror
   ↳ --disable-tools --disable-pie --disable-vnc --disable-sdl --disable-
   ↳ gtk --disable-opengl --disable-netmap --disable-nettle
2
3 ERROR: missing file /build/rtems/releases/build/5.0.0-m2006-1/rtems-
   ↳ source-builder-5.0.0-m2006-1/bare/build/qemu-v4.1.0-x86_64-freebsd12.
   ↳ 1-1/qemu-git-v4.1.0/ui/keycodemapdb/README
```

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```

4
5 This is not a GIT checkout but module content appears to
6 be missing. Do not use 'git archive' or GitHub download links
7 to acquire QEMU source archives. Non-GIT builds are only
8 supported with source archives linked from:
9
10 https://www.qemu.org/download/#source
11
12 Developers working with GIT can use scripts/archive-source.sh
13 if they need to create valid source archives.

```

This means any build of qemu taken from git will fail as a release. The qemu4 build is qemu-4.1.0 so it may be simpler to move to using the release source than git. I do not think modeling the QEMU source release process in our release process is a good idea.

NOTE: Making the change will require some testing on Linux by Zynq and RISC-V core developers before I branch.

Author: Trac Migrate 2020-06-10T05:00:09.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"42b7e8a4faa4a4601a69da78e02092ebdb81b7d9/rtems-source-builder" 42b7e8a/rtems-source-builder]:

```

1 devel/qemu4: Use release source tarball
2
3 Git cannot be used for a release as our release process does not
4 package the source in a manner qemu expects.
5
6 Closes #3976

```

4.2.1.279 3995 - Release doxygen support is broken

Id	3995
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-06-03T04:29:24.000Z
Updated	2020-06-04T02:29:11.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3995
Merges	0

The doxygen support has been updated in the repository and the release scripts have not been

updated.

Author: Chris Johns 2020-06-04T02:29:11.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.280 3992 - Release URL path with sources is wrong

Id	3992
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-05-28T23:14:50.000Z
Updated	2020-06-04T02:28:53.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3992
Merges	0

The path is wrong in the release scripts.

Author: Chris Johns 2020-06-04T02:28:53.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.281 3686 - Add library searching and loading to libdl

Id	3686
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-02-02T04:55:41.000Z
Updated	2020-06-01T11:17:38.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3686
Merges	0

Provide support to search library files (archives) for symbols loading the object file that contains the symbol. The support shall:

1. Parse a configuration file called `/etc/libdl.conf` for the list of archive symbols to load. Support `fnmatch()` wildcard parsing. Allow runtime updates reloading if there is a change.

2. Maintain archive symbol tables in memory to improve symbol search performance. Archives must have a ranlib generated symbol table. Reload an archive if it has changed.
3. Make sure separate text and data built object files is supported. Assume a duplicate symbol means that section and symbol has already been loaded. Load all sections not loaded. There is no need to be efficient at this point in time.
4. Add support to check if there are any system wide unresolved symbols.
5. Automatically unloaded archive object files that are not referenced.
6. Duplicate symbols in archives is not an error. The first archive that has the symbol in an object file is loaded.

The feature adds **symbol based demand loading** of object files to libdl. A user loads an object file using the dlopen function and unresolved symbols are loaded from the libraries hosted on the target.

Author: Trac Migrate 2019-02-08T23:08:15.000Z

In [changeset:"89c59be38d9c83437abb9002e8fea5012652e5ff/rtems" 89c59be/rtems]:

```

1 libdl: Add symbol searching and loading from archives.
2
3 - Load archive symbol tables to support searching of archives
4 for symbols.
5 - Search archive symbols and load the object file that contains
6 the symbol.
7 - Search the global and archives until all remaining unresolved symbols
8 are not found. Group the loaded object files in the pending queue.
9 - Run the object file and loaded dependents as a group before adding to
  ↳ the
10 main object list.
11 - Remove orphaned object files after references are removed.
12
13 Updates #3686

```

Author: Trac Migrate 2019-02-08T23:08:19.000Z

In [changeset:"85b599747e93ce3b9837f0e5cf2373c6c5ceb653/rtems" 85b59974/rtems]:

```

1 libtests/dl02: Update the rtl-shell path.
2
3 Updates #3686

```

Author: Trac Migrate 2019-02-08T23:08:23.000Z

In [changeset:"bac53634537ca304eba66b3c0b3b0e2eb4a6a776/rtems" bac53634/rtems]:

```

1 libtests/dl02: Update the rtl-shell path. More verbose test.
2
3 Updates #3686

```

Author: Trac Migrate 2019-02-08T23:08:26.000Z

In [changeset:"a7c6176293b93fdf30abd96f2ae0b12c26b8f982/rtems" a7c6176/rtems]:

```

1 libtest/dl08: Add a test for archives.
2
3 - Create 2 archives.
4 - Load 1 object file which loads 6 object files from the libraries.
5
6 Updates #3686

```

Author: Trac Migrate 2019-02-19T22:09:52.000Z

In [changeset:"be62def98119266f882093f58b0578d8b8c26fdd/rtems" be62def9/rtems]:

```

1 libdl/archive: Return false on read failure.
2
3 Coverity issue 1442641
4
5 Updates #3686

```

Author: Trac Migrate 2019-02-19T22:09:56.000Z

In [changeset:"62b01ab2d237a8e69e8465831716ac356aa0c435/rtems" 62b01ab/rtems]:

```

1 libdl/archive: Fix the config file string index while removing trailing_
  ↪white space.
2
3 Coverity issue 1442540
4
5 Updates #3686

```

Author: Trac Migrate 2019-02-19T22:10:00.000Z

In [changeset:"7aa0530973b73866d26004849bc91856809f2b49/rtems" 7aa0530/rtems]:

```

1 libdl/archive: Check for an overflow of the symbol table.
2
3 Coverity 1442636
4
5 Updates #3686

```

Author: Trac Migrate 2019-02-19T22:10:03.000Z

In [changeset:"c5615ddc0b9b323d6837ef75e0d690562ebe84ab/rtems" c5615ddc/rtems]:

```

1 libdl/unresolved: Fix return value for rtems_rtl_unresolved_remove
2
3 Coverity 1399717
4
5 Updates #3686

```

Author: Trac Migrate 2019-03-13T07:15:22.000Z

In [changeset:"286e9354e008b08983e6390a68f8ecc5071de069/rtems" 286e935/rtems]:

```

1 Regenerate cpukit/headers.am
2
3 Updates #3686.

```

Author: Chris Johns 2020-02-26T03:51:41.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.282 3987 - ARMv7-M Exception handler does not store the SP

Id	3987
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-05-27T07:24:32.000Z
Updated	2020-05-27T08:25:27.000Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::4.11
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3987
Merges	0

Original author: sebastian.huber

The default exception handler on ARMv7-M does not store the SP of the exception context to the exception frame.

Author: Trac Migrate 2020-05-27T08:25:27.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"bd750c9e6e048a31dfc4cdc0fa432de0fb14442c/rtems"bd750c9e/rtems]:

```
1 arm: Fix ARMv7-M exception handler
2
3 Store the stack pointer of the exception context to the exception frame.
4
5 Close #3987.
```

4.2.1.283 2514 - Make POSIX API mandatory (except signals and the sporadic server)

Id	2514
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-01-07T09:06:43.000Z
Updated	2020-05-18T07:05:33.000Z
Milestone	5.1
Labels	api::posix, priority::normal, resolution::fixed, tickettype::enhancement, version::4.12
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2514
Merges	0

Original author: sebastian.huber

The POSIX API is currently a build-time configuration option. In general it is beneficial to avoid build-time configuration options since this reduces the testing scope.

Applications not using the POSIX API should observe only a minimal overhead due to this change.

This enhancement depends on [#2408](#).

- [0001-RTEMS-Self-contained-POSIX-objects.patch](#)

Author: Trac Migrate 2016-01-07T09:10:38.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 The POSIX API is currently a build-time configuration option. In_
  ↳ general it is beneficial to avoid build-time configuration options_
  ↳ since this reduces the testing scope.
2
3 - Applications not using the POSIX API should observe only a minimal_
  ↳ overhead due to change.
4 + Applications not using the POSIX API should observe only a minimal_
  ↳ overhead due to this change.
5 ?
  ↳          ++++++
6
7
8 This enhancement depends on #2408.
```

Author: Trac Migrate 2016-01-08T08:02:42.000Z

Original author: sebastian.huber

In changeset fe100e16117c36c40e99a853d09cd8dcf98dbff0:

score: Add fatal errors for NULL entry init tasks This simplifies the global construction. Update [#2514](#).

Author: Trac Migrate 2016-01-08T08:37:30.000Z

Original author: sebastian.huber

In [44e987192e47910b8551a8f9409e9cd6133695d1/rtems]:

score: Avoid dead code in global construction

Update [#2514](#).

Author: Trac Migrate 2016-01-11T07:47:12.000Z

Original author: sebastian.huber

In changeset ccd54344d904b657123e4e4ba795a32212382be2:

score: Introduce Thread_Entry_information This avoids potential dead code in _Thread_Handler(). It gets rid of the dangerous function pointer casts. Update [#2514](#).

Author: Trac Migrate 2016-01-26T09:26:22.000Z

Original author: sebastian.huber

In changeset 885c342e043f2281a0bc707cd0bc59726d1c4b79:

mpci: Update due to API changes Update due to API changes introduced by ccd54344d904b657123e4e4ba795a32212382be2. Update [#2514](#).

Author: Trac Migrate 2017-01-31T09:13:49.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”5.0”
- **Version** ~”4.12” deleted

Author: Trac Migrate 2017-05-11T10:05:24.000Z

Original author: sebastian.huber

The signals implementation has some (severe) defects:

Fixing them is a major work package. I suggest to enable the non-signal related stuff of the POSIX API by default.

Author: Trac Migrate 2017-10-05T05:20:56.000Z

Original author: sebastian.huber

- **Attachment** [0001-RTEMS-Self-contained-POSIX-objects.patch](#) added

Author: Trac Migrate 2017-10-05T12:34:58.000Z

Original author: sebastian.huber

In [changeset:”76d9db31feb7835c66f926d280ea717b7933e152/rtems-source-builder” 76d9db3/rtems-source-builder]:

```

1 4.12: Update to Newlib 2.5.0.20170922
2
3 The time_t is now a 64-bit signed integer.
4
5 This update includes a patch to introduce the self-contained POSIX
6 synchronization objects.
7
8 Update #2514.
9 Update #3111.
10 Update #3112.
11 Update #3113.
12 Update #3114.
13 Update #3115.
14 Update #3116.
```

Author: Trac Migrate 2017-10-05T12:35:53.000Z

Original author: sebastian.huber

In [changeset:"e46a075d35fa821b9d5f841032149d74e828be2b/rtems" e46a075/rtems]:

```

1 Enforce compatible Newlib version
2
3 This Newlib check ensures that we have a 64-bit time_t and
4 self-contained POSIX synchronization objects.
5
6 Update #2514.
7 Update #3111.
8 Update #3112.
9 Update #3113.
10 Update #3114.
11 Update #3115.
12 Update #3116.
```

Author: Trac Migrate 2017-10-05T12:36:18.000Z

Original author: sebastian.huber

In [changeset:"c090db7405b72ce6d0b726c0a39fb1c1aebab7ea/rtems" c090db7/rtems]:

```

1 posix: Implement self-contained POSIX semaphores
2
3 For semaphore object pointer and object validation see
4 POSIX_SEMAPHORE_VALIDATE_OBJECT().
5
6 Destruction or close of a busy semaphore returns an error status. The
7 object is not flushed.
8
9 POSIX semaphores are now available in all configurations and no longer
10 depend on --enable-posix.
11
12 Update #2514.
13 Update #3116.
```

Author: Trac Migrate 2017-10-05T12:36:31.000Z

Original author: sebastian.huber

In [changeset:"e67929c4c0025ef46053523be4c8736dd178cbec/rtems" e67929c/rtems]:

```

1 posix: Implement self-contained POSIX barriers
2
3 POSIX barriers are now available in all configurations and no longer
4 depend on --enable-posix.
```

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5
6 Update #2514.
7 Update #3114.

Author: Trac Migrate 2017-10-05T12:36:43.000Z

Original author: sebastian.huber

In [changeset:"89fc9345dea5c675f8d93546fa3c723918d3279a/rtems"
89fc9345/rtems]:

1 posix: Implement self-contained POSIX rwlocks
2
3 POSIX rwlocks are now available in all configurations and no longer
4 depend on --enable-posix.
5
6 Update #2514.
7 Update #3115.

Author: Trac Migrate 2017-10-05T12:36:56.000Z

Original author: sebastian.huber

In [changeset:"5222488573e3ba8c2e3cfe29f878a73a3a81694/rtems"
5222488/rtems]:

1 posix: Implement self-contained POSIX condvar
2
3 POSIX condition variables are now available in all configurations and no
4 longer depend on --enable-posix.
5
6 Update #2514.
7 Update #3113.

Author: Trac Migrate 2017-10-05T12:37:09.000Z

Original author: sebastian.huber

In [changeset:"de59c065c57cb8526662ee6da28a57ad16fdde66/rtems"
de59c065/rtems]:

1 posix: Implement self-contained POSIX mutex
2
3 POSIX mutexes are now available in all configurations and no longer
4 depend on --enable-posix.
5
6 Update #2514.
7 Update #3112.

Author: Trac Migrate 2017-10-10T05:43:49.000Z

Original author: sebastian.huber

In [changeset:"af9115f35cfb3d0adeb3e105fd608883596f2637/rtems" af9115f3/rtems]:

```

1 posix: Simplify POSIX_API_Control
2
3 Return stack area via pthread_getattr_np().
4
5 Simplify
6
7 * pthread_attr_setaffinity_np(), and
8 * pthread_attr_getaffinity_np()
9
10 and let the scheduler do the more sophisticated error checks.
11
12 Make
13
14 * pthread_setaffinity_np(),
15 * pthread_getaffinity_np(),
16 * pthread_attr_setaffinity_np(), and
17 * pthread_attr_getaffinity_np()
18
19 available in all configurations.
20
21 Update #2514.
22 Close #3145.
23 Close #3168.
```

Author: Trac Migrate 2017-10-10T05:44:03.000Z

Original author: sebastian.huber

In [changeset:"da9f5f113332459444a2a89cbb011c2bbea202da/rtems" da9f5f1/rtems]:

```

1 posix: Remove rtems_pthread_attribute_compare()
2
3 Update #2514.
4 Close #3174.
```

Author: Trac Migrate 2017-10-10T05:44:17.000Z

Original author: sebastian.huber

In [changeset:"8c5267a268ae8ce599e61d0e1bdff585e26187c5/rtems" 8c5267a/rtems]:

```

1 posix: Simplify pthread_attr_setstack()
2
3 Simplify
4
5 * pthread_attr_setstack(), and
6 * pthread_attr_setstacksize().
7
8 Update #2514.
```

Author: Trac Migrate 2017-10-10T05:44:29.000Z

Original author: sebastian.huber

In [changeset:"4f9ed26655c2659fcf697a281cb401aa919849bf/rtems" 4f9ed26/rtems]:

```

1 posix: Constify default thread processor affinity
2
3 Set default thread processor affinity to all processors of the
4 pre-allocated set. This allows to constify the
5 _POSIX_Threads_Default_attributes.
6
7 Update #2514.
```

Author: Trac Migrate 2017-10-10T05:44:43.000Z

Original author: sebastian.huber

In [changeset:"bd5be58fa6b4f1108fc69c8ff55cf2d20ddde620/rtems" bd5be58f/rtems]:

```

1 posix: Unconditional thread attribute support
2
3 Update #2514.
```

Author: Trac Migrate 2017-10-11T05:39:29.000Z

Original author: sebastian.huber

In [changeset:"a3ad4afba883e56447aa40f92c1ad08d835d2564/rtems" a3ad4af/rtems]:

```

1 posix: Validate affinity sets by the scheduler
2
3 Update #2514.
```

Author: Trac Migrate 2017-10-11T05:39:43.000Z

Original author: sebastian.huber

In [changeset:"b2dbb634eccc4132eb839a0ed5ab09c7b3bd992e/rtems" b2dbb634/rtems]:

```
1 score: Remove CPU_set_Control
2
3 Use Processor_mask instead.
4
5 Update #2514.
```

Author: Trac Migrate 2017-10-11T06:34:14.000Z

Original author: sebastian.huber

In [changeset:"16aaf73bbb7c48aebce0e993186318710479e6c0/rtems" 16aaf73b/rtems]:

```
1 smpaffinity01: Fix test case
2
3 Update #2514.
```

Author: Trac Migrate 2017-10-11T12:09:24.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.0" to %"4.12.0"
- **Status** changed from *new* to *accepted*
- **Summary** changed from *Make POSIX API mandatory* to *Make POSIX API mandatory (except signals and the sporadic server)*

Author: Trac Migrate 2017-10-12T05:20:28.000Z

Original author: sebastian.huber

In [changeset:"5850054098b08aa87501fe464a0e4764916a433b/rtems" 58500540/rtems]:

```
1 posix: Fix const qualifier warning
2
3 Update #2514.
4 Update #3179.
```

Author: Trac Migrate 2017-10-18T06:52:20.000Z

Original author: sebastian.huber

In [changeset:"2be22d4f6478e80cd7df05b888650d1563d2b504/rtems" 2be22d4/rtems]:

```
1 posix: Move POSIX_API_Control::thread
2
3 This member is only used by the sporadic server support.
4
5 Update #2514.
```

Author: Trac Migrate 2017-10-18T06:52:32.000Z

Original author: sebastian.huber

In [changeset:"3f3f42482daa45aff3647f34afb4e2c4eca242cd/rtems"3f3f424/rtems]:

```
1 posix: Remove POSIX_API_Control::schedparam
2
3 Move sporadic server scheduler parameters to
4 POSIX_API_Control::Sporadic. Remove redundant scheduler priority
5 parameter.
6
7 Update #2514.
```

Author: Trac Migrate 2017-10-18T06:52:44.000Z

Original author: sebastian.huber

In [changeset:"37eb717f90c04b9a2654ef5c5b247eb50652e54b/rtems"37eb717/rtems]:

```
1 posix: Simplify _POSIX_Threads_Create_extension()
2
3 Move unblocked signals initialization to pthread_create().
4
5 Update #2514.
```

Author: Trac Migrate 2017-10-18T07:34:22.000Z

Original author: sebastian.huber

In [changeset:"dbb30e2607ac72d9419df3ba96c423a4a8532d5b/rtems"dbb30e26/rtems]:

```
1 posix: Fix POSIX disabled build
2
3 Update #2514.
```

Author: Trac Migrate 2017-10-23T05:13:34.000Z

Original author: sebastian.huber

In [changeset:"eeb8d8387f7cab370adb4edd0eaccc2c82a6b5f7/rtems" eeb8d83/rtems]:

```
1 posix: Fix POSIX disabled build
2
3 Update #2514.
```

Author: Trac Migrate 2017-11-02T10:25:59.000Z

Original author: sebastian.huber

In [changeset:"81fd79daf0a48f51c3ca29c953e029d645fd08fb/rtems" 81fd79d/rtems]:

```
1 smppsxaffinity02: Fix thread attribute usage
2
3 The pthread_getattr_np() returns now the stack address and size. Do not
4 use this stack for the new threads.
5
6 Update #2514.
7 Update #3145.
8 Update #3168.
```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Trac Migrate 2017-11-09T07:13:44.000Z

Original author: sebastian.huber

In [changeset:"7147dc43b874271a0d4c14bbbc8ea10d1ed57cef/rtems" 7147dc4/rtems]:

```
1 posix: Remove POSIX_API_Control::schedpolicy
2
3 Use the thread CPU budget algorithm to determine the scheduler policy.
4 This fixes also pthread_getschedparam() for Classic tasks.
5
6 Update #2514.
```

Author: Trac Migrate 2017-11-09T07:13:56.000Z

Original author: sebastian.huber

In [changeset:"64ba1a9606c86f54d66d1d5cc638fb9aff7338a2/rtems" 64ba1a96/rtems]:

```

1 posix: Change created_with_explicit_scheduler
2
3 Remove POSIX_API_Control::created_with_explicit_scheduler. Add
4 Thread_Control::was_created_with_inherited_scheduler. This fixes also
5 pthread_getattr_np() for Classic tasks.
6
7 Update #2514.
```

Author: Trac Migrate 2017-11-21T07:09:15.000Z

Original author: sebastian.huber

In [changeset:"c0d602ea6935bd784c2bb81b0c1efe94c6638faa/rtems" c0d602e/rtems]:

```

1 posix: _POSIX_Threads_Get_sched_param_sporadic()
2
3 Remove api parameter to simplify the calling functions.
4
5 Update #2514.
```

Author: Trac Migrate 2018-06-18T07:54:07.000Z

Original author: sebastian.huber

In [changeset:"49fd910bc271ff76cddc43d3033da18dfa781058/rtems-docs" 49fd910/rtems-docs]:

```

1 c-user: Remove obsolete RTEMS_SYSINIT_CPU_SET
2
3 Update #2514.
```

Author: Joel Sherrill 2018-10-13T22:41:39.000Z

Original author: sebastian.huber

Sebastian.. since this hasn't been touched in a few months, is this complete?

Author: Trac Migrate 2018-10-15T05:31:34.000Z

Original author: sebastian.huber

Progress on this ticket was blocked by several things. I hope to close it soon.

Author: Trac Migrate 2018-10-23T14:03:05.000Z

Original author: sebastian.huber

In [changeset:"dd804bb16ff3c5541fc998267f3213f96c33bf2c/rtems"
dd804bb/rtems]:

```
1 posix: Provide cancel state/type by default
2
3 Sort POSIX sources lexicographically in Makefile.am
4
5 Update #2514.
```

Author: Trac Migrate 2018-10-23T14:03:09.000Z

Original author: sebastian.huber

In [changeset:"0b2808ce0b163a6b4a63a8ebd26c1bb50df331e6/rtems"
0b2808ce/rtems]:

```
1 posix: Provide scheduler support by default
2
3 Update #2514.
```

Author: Trac Migrate 2018-10-23T14:03:12.000Z

Original author: sebastian.huber

In [changeset:"8d816221c164f817aa44f18342734ffac26b29c8/rtems"
8d81622/rtems]:

```
1 posix: Provide non-thread functions by default
2
3 Update #2514.
```

Author: Trac Migrate 2018-10-25T08:06:11.000Z

Original author: sebastian.huber

In [changeset:"4a7be22b5a711bf007cd7b77de54eb45fb30e6ee/rtems"
4a7be22/rtems]:

```
1 posix: Fix build with POSIX API disabled
2
3 Update #2514.
```

Author: Trac Migrate 2018-10-25T08:06:22.000Z

Original author: sebastian.huber

In [changeset:"135cb10efa863e2fe3029655b9c7cb136e64fc48/rtems"
135cb10/rtems]:


```

1 posix: Provide more functions by default
2
3 Update #2514.

```

Author: Trac Migrate 2018-10-30T06:11:25.000Z

Original author: sebastian.huber

In [changeset:"0dbf67b66e7424730feede962826bf020de96c67/rtems"
0dbf67b/rtems]:

```

1 posix: Provide aio_suspend() by default
2
3 Update #2514.

```

Author: Trac Migrate 2018-10-30T06:11:34.000Z

Original author: sebastian.huber

In [changeset:"5090a71bf821b31342769ab6c1a451f47a2c2e45/rtems"
5090a71b/rtems]:

```

1 score: Remove bogus thread object name support
2
3 Update #2514.

```

Author: Trac Migrate 2018-10-30T06:11:42.000Z

Original author: sebastian.huber

In [changeset:"70382718450c6b5d83232188cc71b6c795048a27/rtems"
7038271/rtems]:

```

1 Remove RTEMS_SCORE_OBJECT_ENABLE_STRING_NAMES
2
3 Enable support for string objects names unconditionally. Add const
4 qualifier throughout. Split _Objects_Namespace_remove() into
5 _Objects_Namespace_remove_u32() and _Objects_Namespace_remove_string()
6 to avoid an unnecessary dependency on _Workspace_Free().
7
8 Update #2514.

```

Author: Trac Migrate 2018-10-30T06:11:58.000Z

Original author: sebastian.huber

In [changeset:"e97806a5ff7673422082edd49ec3c62c5f0f1ccd/rtems"
e97806a/rtems]:

```
1 posix: Split posix_api_configuration_table
2
3 Use separate configuration variables to avoid false dependencies.
4
5 Update #2514.
```

Author: Trac Migrate 2018-10-30T06:12:06.000Z

Original author: sebastian.huber

In [changeset:"9318cfb050c0cd15f0bf5b600177b0682583cf18/rtems"9318cfb0/rtems]:

```
1 posix: Provide named semaphores by default
2
3 Update #2514.
```

Author: Trac Migrate 2018-10-30T06:12:14.000Z

Original author: sebastian.huber

In [changeset:"701057e0b93fe0afd56f1cce206d6f6137cb57d4/rtems"701057e0/rtems]:

```
1 posix: Provide shared memory objects by default
2
3 Update #2514.
```

Author: Trac Migrate 2018-10-30T06:12:21.000Z

Original author: sebastian.huber

In [changeset:"fe7aefd516baf9d44003ce47d9379a310ac4050e/rtems"fe7aefd5/rtems]:

```
1 posix: Provide message queues by default
2
3 Update #2514.
```

Author: Trac Migrate 2018-10-30T06:12:29.000Z

Original author: sebastian.huber

In [changeset:"033f31c8af6e742d3f56311b09b331ad0b222e3c/rtems"033f31c8/rtems]:

```

1 posix: Hide POSIX_API_Control by default
2
3 Update #2514.

```

Author: Trac Migrate 2018-10-30T06:12:37.000Z

Original author: sebastian.huber

In [changeset:"54f35888311f36baefd90b1f31e4150e3db5465/rtems" 54f35888/rtems]:

```

1 posix: Provide threads by default
2
3 Update #2514.

```

Author: Trac Migrate 2018-10-30T06:12:45.000Z

Original author: sebastian.huber

In [changeset:"ef16a111c72cbea68213cabebf345cd4f9e40e6c/rtems" ef16a11/rtems]:

```

1 posix: Enable psxtmtests tests by default
2
3 Update #2514.

```

Author: Trac Migrate 2018-10-30T06:12:54.000Z

Original author: sebastian.huber

In [changeset:"24f3e8fd5bd7e7749cb8e5ed506520126137319e/rtems" 24f3e8f/rtems]:

```

1 posix: Enable more smptests tests by default
2
3 Update #2514.

```

Author: Trac Migrate 2018-10-30T06:13:02.000Z

Original author: sebastian.huber

In [changeset:"8dc1ed135a27fd0ee0135bb6e9f1a5fd7e709ebb/rtems" 8dc1ed1/rtems]:

```

1 posix: Enable more psxtests by default
2
3 Update #2514.

```

Author: Trac Migrate 2018-10-30T06:13:10.000Z

Original author: sebastian.huber

In [changeset:"bb3484c9ecdaac27f7889ad87c223a1774fb7564/rtems" bb3484c9/rtems]:

```
1 posix: Enable more sptests test cases by default
2
3 Update #2514.
```

Author: Trac Migrate 2018-11-05T06:19:24.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"dd1c262d2a3b632025d42d5f46e12c8c12fd9c46/rtems-docs" dd1c262/rtems-docs]:

```
1 c-user: Update POSIX API configuration
2
3 Close ##2514.
```

Author: Trac Migrate 2020-05-18T07:05:33.000Z

Original author: sebastian.huber

In [changeset:"934cbe7d9fa3f1c251eed213e0688a736567ca93/rtems" 934cbe7/rtems]:

```
1 posix: Get real priority in pthread_getattr_np()
2
3 This is in line with pthread_setschedparam() and
4 pthread_getschedparam().
5
6 Update #2514.
```

4.2.1.284 3968 - symlinks in RTEMS source tree

Id	3968
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-05-05T00:52:18.000Z
Updated	2020-05-09T12:10:55.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::test, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3968
Merges	0

There is a symlink in the RTEMS git repo and source tree. We cannot have symlinks in released tar files because it breaks on Windows and MSYS:

```
1 $ find . -type l
2 ./testsuites/libtests/tar01/symlink
```

MSYS reports:

```
1 $ find . -type l
2 ./testsuites/libtests/tar01/symlink
```

The software engineering manual needs an entry stating symlinks cannot appear in the source repo or git in any RTEMS repos. The solution is to create a symlink on suitable hosts, i.e. not Windows when building.

This ticket will address the removal and not state of the effected test. That will be the subject of another ticket if someone creates it.

Author: Trac Migrate 2020-05-07T10:32:14.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"ef9517b7d5b46da94d541cbc0f5fbc82c53115c5/rtems" ef9517b7/rtems]:

```
1 libtests/tar0[12]: Add tar archive
2
3 Do not generate the test tar archive on the host computer since not all
4 file systems support symbolic links.
5
6 Close #3968.
```

Author: Trac Migrate 2020-05-09T12:10:55.000Z

In [changeset:"ea2d9237fcc4f755ec7506d8639895697fd2527b/rtems" ea2d923/rtems]:

```
1 libtests/tar01: Remove files of tar01.tar archive
2
3 Update #3968.
```

4.2.1.285 3967 - Release source package list is out of date

Id	3967
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-05-03T23:37:43.000Z
Updated	2020-05-08T08:05:35.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3967
Merges	0

The source package list needs to be reviewed and updated:

<https://git.rtems.org/rtems-release/tree/rtems-source-packages>

Author: Chris Johns 2020-05-08T08:05:35.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.286 3966 - RSB bare version number if wrong.

Id	3966
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-05-03T23:35:52.000Z
Updated	2020-05-08T04:34:30.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3966
Merges	0

The bare/bare-config.cfg has the wrong major version number for RTEMS.

Author: Trac Migrate 2020-05-08T04:34:30.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"955c1c173e02e2ed62fe1cc11b13733700e99bcb/rtems-source-builder" 955c1c1/rtems-source-builder]:

```

1 bare/qemu: Fixes building on FreeBSD
2
3 - Move the qemu config to a common file shared by qemu and qemu4.
4
5 - Disable nettle on qemu4, FreeBSD complained.
6
7 - Add some extra git cleaning steps to the git path. These however
8 do not full clean the qemu submodules and it is not worth the
9 effort to try and fix.
10
11 - The devel/qemu will not build on machines with python set to
12 python3. This will not be fixed, use qemu4.
13
14 Closes #3966

```

4.2.1.287 3974 - Deprecate ephipany port in rtems5 and remove in rtems6

Id	3974
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2020-05-07T01:28:02.000Z
Updated	2020-05-07T04:37:16.000Z
Milestone	5.1
Labels	arch:epiphany, priority::normal, resolution::fixed, tickettype::defect
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3974
Merges	0

This port has not built in a while and gcc does not appear to be getting fixed. It has been at Tier 4 for a while because of this.

If this port is of interest, work to get gcc fixed and help resurrect this port.

Deprecate for RTEMS 5.x Remove in RTEMS 6.x

Author: Trac Migrate 2020-05-07T04:37:16.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

It is already in the release notes.

4.2.1.288 3969 - dl06 fails on all libdl supported architectures

Id	3969
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-05-05T01:29:25.000Z
Updated	2020-05-05T05:03:58.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3969
Merges	0

The test dl06 fails on all libdl supported architectures.

Author: Trac Migrate 2020-05-05T01:32:22.000Z

In [changeset:"6de89d9268f3019f2eb9cf7e1ad8102792d6a428/rtems-tools" 6de89d9/rtems-tools]:

```
1 linkers/ld: Output all reloc records to the RAP file
2
3 Updates #3969
```

Author: Trac Migrate 2020-05-05T05:03:36.000Z

In [changeset:"285cda38e17b69b0cc71a191a560be321ed196a1/rtems" 285cda3/rtems]:

```
1 libdl: Fix comment.
2
3 Updates #3969
```

Author: Trac Migrate 2020-05-05T05:03:40.000Z

In [changeset:"fe77587c64b4322cfeaf2dd36b3ef5b6d73acb10/rtems" fe77587/rtems]:

```
1 libdl/sparc: Print trace message of reloc failure path
2
3 Updates #3969
```

Author: Trac Migrate 2020-05-05T05:03:44.000Z

In [changeset:"b77670fd3fd39a7d6f52d74bde403e855a7230f2/rtems" b77670fd/rtems]:


```

1 libdl/obj: Fix RAP format call table.
2
3 Updates #3969

```

Author: Trac Migrate 2020-05-05T05:03:47.000Z

In [\[changeset:"d5fc2a6ad6632778a7f426ec3ccfc1a1bcaccf1/rtems"d5fc2a6a/rtems\]](#):

```

1 libdl/obj-cache: Fail if the read offset is past the file length
2
3 - The check was for greater than and not equal or greater
4
5 Updates #3969

```

Author: Trac Migrate 2020-05-05T05:03:51.000Z

In [\[changeset:"3635d6a8366ae1a5fc2908d59ffa4855670fa512/rtems"3635d6a/rtems\]](#):

```

1 libdl/obj-comp: Add trace prints when decompressing
2
3 Updates #3969

```

Author: Trac Migrate 2020-05-05T05:03:54.000Z

In [\[changeset:"b7702c541c563df2d857308fc4d12d818e9b5c3b/rtems"b7702c54/rtems\]](#):

```

1 libdl/rap: Correctly check the return enum from rela calls
2
3 - The change from bool to an enum did not trip a compiler warning
4 and only the rel path was changed. The rela path was missed so
5 archs like SPARC failed.
6
7 Updates #3969

```

Author: Trac Migrate 2020-05-05T05:03:58.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [\[changeset:"3f50e8e671c3a7b15e416291799f9a9668db2b02/rtems"3f50e8e/rtems\]](#):

```

1 testsuite/dl06: Add a local define to control tracing
2
3 Closes #3969

```

4.2.1.289 2559 - Delete the EXTERN pattern

Id	2559
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-02-03T11:51:17.000Z
Updated	2020-04-30T22:06:27.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2559
Merges	0

Original author: sebastian.huber

Change the following pattern:

some.h:

```

1 #ifndef SOME_XYZ_EXTERN
2 #define SOME_XYZ_EXTERN extern
3 #endif
4 SOME_XYZ_EXTERN type xyz;

```

some_xyz.c:

```

1 #define SOME_XYZ_EXTERN
2 #include <some.h>

```

into:

some.h:

```

1 extern type xyz;

```

some_xyz.c:

```

1 #include <some.h>
2 type xyz;

```

See discussion:

<https://lists.rtems.org/pipermail/devel/2016-January/013506.html>

Update Developer Coding Conventions accordingly.

Author: Trac Migrate 2016-02-04T12:00:29.000Z

Original author: sebastian.huber

- **Status** changed from *new* to *accepted*

Author: Trac Migrate 2016-02-17T08:41:58.000Z

Original author: sebastian.huber

In changeset d4e81e3c80259467adbd2472fce94aebec3935b5:

or1k: Delete superfluous _CPU_Null_fp_context Update [#2559](#).

Author: Trac Migrate 2016-02-17T08:42:10.000Z

Original author: sebastian.huber

In changeset deaf71637ad7ecb3f3d233039bfefc33b1416957:

i386: Avoid SCORE_EXTERN Update [#2559](#).

Author: Trac Migrate 2016-02-17T08:42:21.000Z

Original author: sebastian.huber

In changeset 59e6e76190383d396582263800e915d54fb0206f:

sh: Avoid SCORE_EXTERN Update [#2559](#).

Author: Trac Migrate 2016-02-17T08:42:33.000Z

Original author: sebastian.huber

In changeset af3847a82af1a1eacce5a0b464d4685444040add:

epiphany: Delete superfluous _CPU_Null_fp_context Update [#2559](#).

Author: Trac Migrate 2016-02-17T08:42:44.000Z

Original author: sebastian.huber

In changeset d638aca61b6d87a7912f634b3820b0e64efb0767:

mips: Avoid SCORE_EXTERN Update [#2559](#).

Author: Trac Migrate 2016-02-17T08:42:56.000Z

Original author: sebastian.huber

In changeset 18a5db205c296b9e3d83a1c7d107e29a996fb12f:

m68k: Avoid SCORE_EXTERN Update #2559.

Author: Trac Migrate 2016-02-17T08:43:08.000Z

Original author: sebastian.huber

In changeset c60093406706cdf000c093f23e0fd0972a28881:

lm32: Avoid SCORE_EXTERN Update #2559.

Author: Trac Migrate 2016-02-17T08:43:20.000Z

Original author: sebastian.huber

In changeset dab78624ebbd097341497f9d0fe92ed7fe1c8167:

sparc: Avoid SCORE_EXTERN Update #2559.

Author: Trac Migrate 2016-02-17T08:43:32.000Z

Original author: sebastian.huber

In changeset 9f016ec97e9e514fc9bed345005b66d88bbec5d3:

no_cpu: Avoid SCORE_EXTERN Update #2559.

Author: Trac Migrate 2016-02-17T08:43:44.000Z

Original author: sebastian.huber

In changeset 142868b235a5e2a550080ad1d4698f057716cd25:

bfin: Delete superfluous _CPU_Null_fp_context Update #2559.

Author: Trac Migrate 2016-02-17T08:43:56.000Z

Original author: sebastian.huber

In changeset 6df892688513d2559d493c394f762e38b8267f2c:

moxie: Delete superfluous _CPU_Null_fp_context Update #2559.

Author: Trac Migrate 2016-02-17T08:44:07.000Z

Original author: sebastian.huber

In changeset 51dc9a6121f8d4716b8ee5849feb16f880ecb20c:

sparc64: Avoid SCORE_EXTERN Update #2559.

Author: Trac Migrate 2016-02-17T08:44:18.000Z

Original author: sebastian.huber

In changeset 358bd740593132ddb00d6e33b4f512b5f9615597:

score: Avoid SCORE_EXTERN Delete SCORE_INIT. This finally removes the some.h:

SOME_XYZ_EXTERN type xyz; some_xyz.c:

pattern in favour of some.h: extern type xyz; some_xyz.c

type xyz; Update #2559.

Author: Trac Migrate 2016-02-17T08:44:52.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

Author: Trac Migrate 2016-03-14T09:25:13.000Z

Original author: sebastian.huber

In changeset 62d2540daeb8dac70daa94ab490b626930f92009:

score: Delete unused SAPI_IO_EXTERN Update #2559.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Joel Sherrill 2020-04-30T22:06:27.000Z

Original author: sebastian.huber

- **Description** changed

```
1 Change the following pattern:
2
3 some.h:
4 {{{
5 #ifndef SOME_XYZ_EXTERN
6 #define SOME_XYZ_EXTERN extern
7 #endif
8 SOME_XYZ_EXTERN type xyz;
9 }}}
10
11 some_xyz.c:
12 {{{
13 #define SOME_XYZ_EXTERN
14 #include <some.h>
15 }}}
16
17 into:
18
19 some.h:
20 {{{
21 extern type xyz;
22 }}}
23
24 some_xyz.c:
25 {{{
26 #include <some.h>
27 type xyz;
28 }}}
29
30 See discussion:
31
32 https://lists.rtems.org/pipermail/devel/2016-January/013506.html
33
34 - Update Developer/Coding/Conventions accordingly.
35 ?           ^       ^
36
37 + Update Developer Coding Conventions accordingly.
38 ?           ^       ^
```

4.2.1.290 3813 - RSB does not handle --rsb-file in releases

Id	3813
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-11-03T22:34:52.000Z
Updated	2020-04-29T05:14:11.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3813
Merges	0

A released RSB does not handle the set source option --rsb-file:

```

1 package: arm-rtems5-gcc-fb371a33fa6-newlib-6661a67-x86_64-freebsd12.0-1
2 download: https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m1911/sources/
   ↳ fb371a33fa6 -> sources/gnu-mirror-gcc-fb371a33fa6.tar.gz
3 download: https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m1911/sources/
   ↳ fb371a33fa6: error: HTTP Error 404: Not Found
4 download: https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m1911/
   ↳ fb371a33fa6 -> sources/gnu-mirror-gcc-fb371a33fa6.tar.gz
5 download: https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m1911/
   ↳ fb371a33fa6: error: HTTP Error 404: Not Found
6 download: https://codeload.github.com/RTEMS/gnu-mirror-gcc/tar.gz/fb371a33fa6 ->
   ↳ sources/gnu-mirror-gcc-fb371a33fa6.tar.gz
7 downloading: sources/gnu-mirror-gcc-fb371a33fa6.tar.gz - 93.6MB

```

The released source has the --rsb-file name as the file name and not the URL file name. The transformation occurred when the release process downloaded the files to make the release. The release fails to find the source in the RTEMS file server and falls back to the home site to fetch the source.

Author: Chris Johns 2020-04-29T05:14:11.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Pushed ...

<https://git.rtems.org/rtems-release/commit/?id=5e16156b814762fa57ab049cfb80e4614124d04f>

and built a release and tested it with a test URL and the beagleboneblack BSP stack built.

4.2.1.291 3944 - qoriq_e500 BSP bset fails

Id	3944
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2020-04-08T14:25:11.000Z
Updated	2020-04-28T08:41:36.000Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3944
Merges	0

Looks like curl isn't building for the qoriq_e500 bset. This seems like a weird outlier. Any ideas?

```

1 checking for gethostbyname for Minix 3... no
2 checking for gethostbyname for eCos... no
3 checking for gethostbyname for AmigaOS bsdsocket.library... no
4 checking for gethostbyname in -lnetwork... no
5 checking for gethostbyname in -lnet... no
6 configure: error: couldn't find libraries for gethostbyname()
7 shell cmd failed: /bin/sh -ex /home/joel/rtems-work/rtems-source-builder/rtems/
  ↳ build/curl-v7.65.1-powerpc-rtems5-1/do-build
8 error: building curl-v7.65.1-powerpc-rtems5-1

```

Author: Trac Migrate 2020-04-09T08:00:17.000Z

I tried to reproduce this issue and ended up with this local problem:

```

1 configure:3441: powerpc-rtems5-gcc --version >&5
2 powerpc-rtems5-gcc (GCC) 10.0.1 20200407 (experimental) [master_
  ↳ revision_
  ↳ fd83c39a6be:52ecef68e56:eed9b787db9ab73968ad4e799de5ce3c2eeb2c6c]
3 Copyright (C) 2020 Free Software Foundation, Inc.
4 This is free software; see the source for copying conditions. There is_
  ↳ NO
5 warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR_
  ↳ PURPOSE.
6
7 configure:3452: $? = 0
8 configure:3441: powerpc-rtems5-gcc -v >&5
9 Using built-in specs.
10 COLLECT_GCC=powerpc-rtems5-gcc
11 COLLECT_LTO_WRAPPER=/opt/rtems/5/lib/gcc/powerpc-rtems5/10.0.1/lto-
  ↳ wrapper
12 Target: powerpc-rtems5
13 Configured with: /home/EB/sebastian_h/archive/gcc-git/configure --
  ↳ prefix=/opt/rtems/5 --target=powerpc-rtems5 --verbose --with-gnu-as -

```

(continues on next page)

(continued from previous page)

```

14 ↪-with-gnu-ld --with-newlib --disable-libstdcxx-pch --disable-nls --
    ↪disable-lto --disable-plugin --without-included-gettext --disable-wi
15 n32-registry --enable-version-specific-runtime-libs --enable-threads --
    ↪enable-newlib-iconv --enable-newlib-iconv-encodings=big5,cp775,cp850,
    ↪cp852,cp855,cp866,euc_jp,euc_kr,euc_tw,iso_8859_1,iso_8859_10,iso_
    ↪8859_11,iso_8859_13,iso_8859_14,iso_8859_15,iso_8859_2,iso_8859_3
16 ,iso_8859_4,iso_8859_5,iso_8859_6,iso_8859_7,iso_8859_8,iso_8859_9,iso_
    ↪ir_111,koi8_r,koi8_ru,koi8_u,koi8_uni,ucs_2,ucs_2_internal,ucs_2be,
    ↪ucs_2le,ucs_4,ucs_4_internal,ucs_4be,ucs_4le,us_ascii,utf_16,utf_16be,
    ↪utf_16le,utf_8,win_1250,win_1251,win_1252,win_1253,win_1254,win
17 _1255,win_1256,win_1257,win_1258 --enable-newlib-io-c99-formats --
    ↪enable-libgomp --enable-languages=c,c++
18 Thread model: rtems
19 Supported LTO compression algorithms: zlib
20 gcc version 10.0.1 20200407 (experimental) [master revision_
    ↪fd83c39a6be:52ecef68e56:eed9b787db9ab73968ad4e799de5ce3c2eeb2c6c]_
    ↪(GCC)
21 configure:3452: $? = 0
22 configure:3441: powerpc-rtems5-gcc -V >&5
23 powerpc-rtems5-gcc: error: unrecognized command-line option '-V'
24 powerpc-rtems5-gcc: fatal error: no input files
25 compilation terminated.
26 configure:3452: $? = 1
27 configure:3441: powerpc-rtems5-gcc -qversion >&5
28 powerpc-rtems5-gcc: error: unrecognized command-line option '-qversion';
    ↪ did you mean '--version'?
29 powerpc-rtems5-gcc: fatal error: no input files
30 compilation terminated.
31 configure:3452: $? = 1
32 configure:3472: checking whether the C compiler works
33 configure:3494: powerpc-rtems5-gcc -mcpu=8540 -meabi -msdata=sysv -fno-
    ↪common -mstrict-align -mspe -mabi=spe -mfloat-gpr=double -O2 -g -
    ↪ffunction-sections -fdata-sections conftest.c >&5
34 powerpc-rtems5-gcc: error: unrecognized command-line option '-mspe'
35 powerpc-rtems5-gcc: error: unrecognized command-line option '-mabi=spe'
    ↪powerpc-rtems5-gcc: error: unrecognized command-line option '-mfloat-
    ↪gpr=double'

```

The build picks up the installed compiler and not the new one of the build set. I think this is a known issue. The compiler is not in my \$PATH. It was picked up by the default prefix. I will try it again with an empty prefix.

Author: Trac Migrate 2020-04-09T10:18:04.000Z

The configure check doesn't use the linker garbage collection and this leads to undefined symbols:

```

1 configure:6802: powerpc-rtems5-gcc -o conftest -qrtems -B/scratch/git-
    ↪rtems-source-builder/rtems/build/tmp/sb-10000-staging/powerpc-rtems5/

```

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```

↳ lib/ -B/scratch/git-rtems-source-builder/rtems/build/tmp/sb-10000-
↳ staging/powerpc-rtems5/qoriq_e500/lib/ --specs bsp_specs -mcpu=8540 -
↳ meabi -msdata=sysv -fno-common -mstrict-align -mspe -mabi=spe -mfloat-
↳ gprs=double -O2 -g -ffunction-sections -fdata-sections -I/scratch/
↳ git-rtems-source-builder/rtems/build/tmp/sb-10000-staging/powerpc-
↳ rtems5/qoriq_e500/lib/include -L/scratch/git-rtems-source-builder/
↳ rtems/build/tmp/sb-10000-staging/powerpc-rtems5/qoriq_e500/lib -
↳ mcpu=8540 -meabi -msdata=sysv -mstrict-align -mspe -mabi=spe -mfloat-
↳ gprs=double -L/scratch/git-rtems-source-builder/rtems/build/tmp/sb-
↳ 10000/ftp/curl/build/rtems/bset-test/lib conftest.c -lbsd -lm -lz -
↳ lrtemsdefaultconfig >&5
2 /scratch/git-rtems-source-builder/rtems/build/tmp/sb-10000-staging/bin/.
↳ ./lib/gcc/powerpc-rtems5/7.5.0/../../../../powerpc-rtems5/bin/ld: /
↳ scratch/git-rtems-source-builder/rtems/build/tmp/sb-10000-staging/
↳ powerpc-rtems5/qoriq_e500/lib/libbsd.a(ofw_subr.c.18.o): in function_
↳ `_bsd_ofw_parse_bootargs':
3 /scratch/git-rtems-source-builder/rtems/build/rtems-libbsd-
↳ v816a2f912f414f39467a6be901a96159f806c01d-x86_64-linux-gnu-1/rtems-
↳ libbsd-816a2f912f414f39467a6be901a96159f806c01d/build/powerpc-rtems5-
↳ qoriq_e500-default/../../../../freebsd/sys/dev/ofw/ofw_subr.c:207:
↳ undefined reference to `boot_parse_cmdline'
4 /scratch/git-rtems-source-builder/rtems/build/tmp/sb-10000-staging/bin/.
↳ ./lib/gcc/powerpc-rtems5/7.5.0/../../../../powerpc-rtems5/bin/ld: /
↳ scratch/git-rtems-source-builder/rtems/build/rtems-libbsd-
↳ v816a2f912f414f39467a6be901a96159f806c01d-x86_64-linux-gnu-1/rtems-
↳ libbsd-816a2f912f414f39467a6be901a96159f806c01d/build/powerpc-rtems5-
↳ qoriq_e500-default/../../../../freebsd/sys/dev/ofw/ofw_subr.c:207:
↳ undefined reference to `boothowto'
5 /scratch/git-rtems-source-builder/rtems/build/rtems-libbsd-
↳ v816a2f912f414f39467a6be901a96159f806c01d-x86_64-linux-gnu-1/rtems-
↳ libbsd-816a2f912f414f39467a6be901a96159f806c01d/build/powerpc-rtems5-
↳ qoriq_e500-default/../../../../freebsd/sys/dev/ofw/ofw_subr.c:207:(.text._
↳ bsd_ofw_parse_bootargs+0x4a): unresolvable R_PPC_SDAREL16 relocation
↳ against symbol `boothowto'
6 /scratch/git-rtems-source-builder/rtems/build/tmp/sb-10000-staging/bin/.
↳ ./lib/gcc/powerpc-rtems5/7.5.0/../../../../powerpc-rtems5/bin/ld: /
↳ scratch/git-rtems-source-builder/rtems/build/rtems-libbsd-
↳ v816a2f912f414f39467a6be901a96159f806c01d-x86_64-linux-gnu-1/rtems-
↳ libbsd-816a2f912f414f39467a6be901a96159f806c01d/build/powerpc-rtems5-
↳ qoriq_e500-default/../../../../freebsd/sys/dev/ofw/ofw_subr.c:207:
↳ undefined reference to `boothowto'
7 /scratch/git-rtems-source-builder/rtems/build/rtems-libbsd-
↳ v816a2f912f414f39467a6be901a96159f806c01d-x86_64-linux-gnu-1/rtems-
↳ libbsd-816a2f912f414f39467a6be901a96159f806c01d/build/powerpc-rtems5-
↳ qoriq_e500-default/../../../../freebsd/sys/dev/ofw/ofw_subr.c:207:(.text._
↳ bsd_ofw_parse_bootargs+0x5a): unresolvable R_PPC_SDAREL16 relocation
↳ against symbol `boothowto'

```

Author: Trac Migrate 2020-04-09T12:01:34.000Z

I think the root cause for this and similar issues is that we have no reliable way to get the essential tool flags of an installed BSP. The new build system is supposed to fix this.

Author: Trac Migrate 2020-04-12T16:13:52.000Z

Why don't we add -Wl,-gc-sections to the standard linker flags?

Author: Chris Johns 2020-04-28T05:13:43.000Z

Replying to [Sebastian Huber](#):

The build picks up the installed compiler and not the new one of the build set. I think this is a known issue. The compiler is not in my \$PATH. It was picked up by the default prefix. I will try it again with an empty prefix.

I am not sure how the PATH is being set. The prepend path is set here ... <https://git.rtems.org/rtems-source-builder/tree/source-builder/sb/setbuilder.py#n422> ... and this is the staging area. The build module does not play with the path and the defaults handles the prepend and postpend and extras ... <https://git.rtems.org/rtems-source-builder/tree/source-builder/defaults.mc#n267> I am confused. Maybe using --trace and inspecting the variables would highlight the issue.

Is there something in gcc causing the prefix to used?

Author: Chris Johns 2020-04-28T05:15:38.000Z

Replying to [Sebastian Huber](#):

Why don't we add -Wl,-gc-sections to the standard linker flags? Is this issue closed? I have been building the kernel and libbsd with the RSB as separate steps for the e500 and e6500_32 and did not see any failures.

Author: Trac Migrate 2020-04-28T05:29:54.000Z

The error was in curl. I sent a patch to fix this issue: <https://lists.rtems.org/pipermail/devel/2020-April/059305.html>

Author: Chris Johns 2020-04-28T06:29:26.000Z

Can we close the ticket?

Author: Trac Migrate 2020-04-28T06:50:26.000Z

The patch is not checked in, you wanted to adjust it a bit: <https://lists.rtems.org/pipermail/devel/2020-April/059311.html>

Author: Trac Migrate 2020-04-28T06:51:40.000Z

I can send also a v2 if you like, I just found it would be easier if you adjust it yourself.

Author: Chris Johns 2020-04-28T07:35:53.000Z

Oh, I am sorry. I will have a look.

Author: Chris Johns 2020-04-28T07:50:25.000Z

Does rtems_waf need the change as well? Is libbsd fixed?

Author: Trac Migrate 2020-04-28T07:55:04.000Z

Th rtems_waf and thus libbsd have another workaround to enable the linker garbage collection.

Author: Trac Migrate 2020-04-28T08:41:36.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"13e4dfd3d279693ae7a3a56a00a7b0d88cd26bd1/rtems-source-builder" 13e4dfd/rtems-source-builder]:

```
1 rtems-bsb: Use linker garbage collection for BSP based builds
2
3 Close #3944.
```

4.2.1.292 3945 - Update DTC example on rtems-docs/user/rsb/configuration.rst

Id	3945
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2020-04-08T16:46:21.000Z
Updated	2020-04-28T06:27:25.000Z
Milestone	5.1
Labels	priority::low, resolution::fixed, tickettype::defect
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3945
Merges	0

Original author: crmm

The DTC example on `rtems-docs/user/rsb/configuration.rst` should be reviewed and updated in order to be consistent with what is available in the RSB tree.

For instance, the link (<http://www.jdl.com/software>) provided in the webpage is not available anymore and some environment variables described in the text need also to be verified (“DESTDIR” and a “DISTDIR”). Thus, it is needed to review this part of the documentation.

Author: Joel Sherrill 2020-04-08T17:17:32.000Z

Original author: crrm

- **Milestone** changed from %”6.1” to %”5.1”
- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

I don’t like moving this back to 5.1 but it is wrong and according to git blame was written in 2016. I assigned it back to the author (per git blame). Hopefully a quick review and edit will get this into shape.

Author: Trac Migrate 2020-04-28T06:27:25.000Z

Original author: crrm

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”ccc473b69dc756e2883e17ed7227068c3e1e2322/rtems-docs”
ccc473b/rtems-docs]:

```
1 user/rsb: Update the configuration documentation
2
3 Closes #3945
```

4.2.1.293 3381 - rtems-test command line documentation appears to be out of date

Id	3381
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2018-03-27T19:25:53.000Z
Updated	2020-04-28T05:27:54.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3381
Merges	0

<https://docs.rtems.org/branches/master/user/tools/tester.html#command-line-help> does not look like the current output of the `-help`.

This may also apply to other branches and branch specific tickets filed.

Author: Joel Sherrill 2018-03-27T19:26:10.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Gedare Bloom 2020-04-04T20:52:10.000Z

The simple solution is to not show the excerpt of `-help` output. Having these output examples that are not forward-compatible is a bit of a pain.

Author: Chris Johns 2020-04-28T05:22:16.000Z

Replying to **Gedare Bloom**:

The simple solution is to not show the excerpt of `-help` output. Having these output examples that are not forward-compatible is a bit of a pain. I agree. I will remove it.

Author: Trac Migrate 2020-04-28T05:27:54.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"8bf866b3f7c2a13fbb6a76dc89be5d0fe7a2023d/rtems-docs" 8bf866b/rtems-docs]:

```
1 user/tester: Remove command line help as output
2
3 Closes #3381
```

4.2.1.294 3956 - RSB BSP build with tests does not keep a copy

Id	3956
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-04-16T23:23:57.000Z
Updated	2020-04-28T05:21:27.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3956
Merges	0

The tests are not installed by default. Add support to the RSB to copy the tests to the installed BSP prefix.

Author: Trac Migrate 2020-04-28T01:07:49.000Z

In [changeset:"d14da0a252248c1c922b9f21ba30639c86681104/rtems-source-builder" d14da0a/rtems-source-builder]:

```

1 rtems-kernel: Install tests when tests are built
2
3 The tests in RTEMS are not installed so if a user requests the
4 tests be built install them. Given the RSB cleans up building the
5 tests and not installing does nothing.
6
7 - Fix the options handling the kernel build to be consistent
8
9 Updates #3956

```

Author: Trac Migrate 2020-04-28T01:32:30.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"b42e0518683acdfe346f470f9fcbbb094b15b83/rtems-docs" b42e051/rtems-docs]:

```

1 user: Update the RSB BSP quick start to say where the tests are_
2 ↪ installed
3 Closes #3956

```

Author: Trac Migrate 2020-04-28T05:21:27.000Z

In [changeset:"47880bbc81b57308d4cd0357a3d3929becd646fd/rtems-source-builder" 47880bb/rtems-source-builder]:

```

1 rtems-kernel: Fix building without the rtems test option.
2
3 Updates #3956

```

4.2.1.295 3810 - Use the release details in the release build docs

Id	3810
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-11-01T05:42:25.000Z
Updated	2020-04-28T05:18:42.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3810
Merges	0

The docs in a release have the hash in the version, it should be the version number with the snapshot details.

Author: Chris Johns 2020-04-28T05:18:42.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Fixed in the release scripts... <https://git.rtems.org/rtems-release/commit/?id=158da70322fb3c4d8bc0f444e6bfd07fb2832495>

4.2.1.296 3960 - Add to FreeBSD host setup information

Id	3960
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2020-04-17T20:32:41.000Z
Updated	2020-04-28T03:57:05.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3960
Merges	0

Installing GCC on FreeBSD 12 leads to build issues. This along with the issue that the GCC build should be done with the GNU sed in the \$PATH during the RSB process needs to be added to the documentation here:

<https://docs.rtems.org/branches/master/user/hosts/posix.html#freebsd>

Author: Trac Migrate 2020-04-27T00:14:50.000Z

- **Owner** set to Chris Johns <chrisj@rtems.org>

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"7fab12c679f46863ecde3c98ed34068de9c57922/rtems-docs" 7fab12c/rtems-docs]:

```
1 freebsd: Update to reflect the current release 12 requirements
2
3 Closes #3960
```

Author: Joel Sherrill 2020-04-27T12:51:10.000Z

I read the change and didn't see sed mentioned. Did you want to make a note about that?

Author: Trac Migrate 2020-04-27T14:18:21.000Z

The RTEMS 5 build sets contain some workarounds for the GNU sed problem. So, for the RTEMS 5 release it is not necessary to mention the GNU sed.

The RTEMS 6 build sets don't have them, so they don't build all on FreeBSD 12 using the BSD sed.

Author: Chris Johns 2020-04-28T03:57:05.000Z

Replying to **Joel Sherrill**:

I read the change and didn't see sed mentioned. Did you want to make a note about that?

I added the package to the needed list to install . . .

<https://git.rtems.org/rtems-docs/tree/user/hosts/posix.rst#n196>

4.2.1.297 3817 - RSB fails on FreeBSD 12.0 (32bit and 64bit)

Id	3817
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2019-11-05T16:59:03.000Z
Updated	2020-04-28T01:49:17.000Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3817
Merges	0

Original author: jeff.mayes

Fails to build GDB for both the Arm and Sparc architectures.

```

1 RTEMS Tools Project - Source Builder Error Report
2 Build: error: building sparc-rtems5-gdb-8.3-x86_64-freebsd12.0-1
3 Command Line: ../source-builder/sb-set-builder --prefix=/home/mayes/dev/rtems/5 5/
   ↪ rtems-sparc
4 Python: 3.6.9 (default, Oct 24 2019, 01:18:01) [GCC 4.2.1 Compatible FreeBSD_
   ↪ Clang 6.0.1 (tags/RELEASE_601/final 335540)]
5 git://git.rtems.org/rtems-source-builder.git/origin/
   ↪ 9a1cf9a2d940a4f79cd822f05c8fb13a4c0ec3bb
6 FreeBSD rtbf64b 12.0-RELEASE-p10 FreeBSD 12.0-RELEASE-p10 GENERIC amd64
7
8 CXXLD  gdb
9 /usr/bin/ld: error: undefined symbol: libiconv_open
10
11     referenced by charset.c
12     charset.o:(convert_between_encodings(char const*, char const*, unsigned_
   ↪ char const*, unsigned int, int, obstack*, transliterations))
13
14     /usr/bin/ld: error: undefined symbol: libiconv
15
16
17     referenced by charset.c
18     charset.o:(convert_between_encodings(char const*, char const*,_
   ↪ unsigned char const*, unsigned int, int, obstack*, transliterations))
19
20     /usr/bin/ld: error: undefined symbol: libiconv_close
21
22
23     referenced by charset.c
24     charset.o:(convert_between_encodings(char const*, char const*,_
   ↪ unsigned char const*, unsigned int, int, obstack*, transliterations))
25
26     /usr/bin/ld: error: undefined symbol: libiconv_close
27
28
29     referenced by charset.c
30     charset.o:(convert_between_encodings(char const*, char_
   ↪ const*, unsigned char const*, unsigned int, int, obstack*, transliterations))
31
32     /usr/bin/ld: error: undefined symbol: libiconv_open
33
34
35     referenced by charset.c
36     charset.o:(wchar_iterator::wchar_iterator(unsigned_
   ↪ char const*, unsigned long, char const*, unsigned long))
37
38     /usr/bin/ld: error: undefined symbol: libiconv_close
39
40
41

```

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```

42 referenced by charset.c
43 charset.o:(wchar_iterator::~wchar_iterator())
44
45 /usr/bin/ld: error: undefined symbol: libiconv_close
↳ libiconv_close
46
47
48 referenced by charset.c
49 charset.o:(validate(gdbarch*))
50 c++: error: linker command failed with
↳ exit code 1 (use -v to see invocation)
51 gmake[2]: *** [Makefile:1889: gdb]
↳ Error 1
52 gmake[2]: Leaving directory '/usr/home/
↳ mayes/dev/rsb/rtems/build/sparc-rtems5-gdb-8.3-x86_64-freebsd12.0-1/build/gdb'
53 gmake[1]: *** [Makefile:8792: all-gdb]
↳ Error 2
54 gmake[1]: Leaving directory '/usr/home/
↳ mayes/dev/rsb/rtems/build/sparc-rtems5-gdb-8.3-x86_64-freebsd12.0-1/build'
55 gmake: *** [Makefile:849: all] Error 2
56 shell cmd failed: /bin/sh -ex /usr/
↳ home/mayes/dev/rsb/rtems/build/sparc-rtems5-gdb-8.3-x86_64-freebsd12.0-1/do-
↳ build
57 error: building sparc-rtems5-gdb-8.3-
↳ x86_64-freebsd12.0-1

```

Author: Chris Johns 2019-11-05T23:34:10.000Z

Original author: jeff.mayes

- **Description** changed

```

1 Fails to build GDB for both the Arm and Sparc architectures.
2 -
3 + {{{
4 RTEMS Tools Project - Source Builder Error Report
5 Build: error: building sparc-rtems5-gdb-8.3-x86_64-freebsd12.0-1
6 Command Line: ../source-builder/sb-set-builder --prefix=/home/mayes/dev/
↳ rtems/5 5/rtems-sparc
7 Python: 3.6.9 (default, Oct 24 2019, 01:18:01) [GCC 4.2.1 Compatible
↳ FreeBSD Clang 6.0.1 (tags/RELEASE_601/final 335540)]
8 git://git.rtems.org/rtems-source-builder.git/origin/
↳ 9a1cf9a2d940a4f79cd822f05c8fb13a4c0ec3bb
9 FreeBSD rtbf64b 12.0-RELEASE-p10 FreeBSD 12.0-RELEASE-p10 GENERIC amd64
10
11 CXXLD gdb
12 /usr/bin/ld: error: undefined symbol: libiconv_open
13
14

```

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```

15      referenced by charset.c
16      charset.o:(convert_between_encodings(char const*, char const*,
↳ unsigned char const*, unsigned int, int, obstack*, transliterations))
17
18      /usr/bin/ld: error: undefined symbol: libiconv
19
20
21      referenced by charset.c
22      charset.o:(convert_between_encodings(char const*, char
↳ const*, unsigned char const*, unsigned int, int, obstack*,
↳ transliterations))
23
24      /usr/bin/ld: error: undefined symbol: libiconv_close
25
26
27      referenced by charset.c
28      charset.o:(convert_between_encodings(char const*,
↳ char const*, unsigned char const*, unsigned int, int, obstack*,
↳ transliterations))
29
30      /usr/bin/ld: error: undefined symbol: libiconv_close
31
32
33      referenced by charset.c
34      charset.o:(convert_between_encodings(char
↳ const*, char const*, unsigned char const*, unsigned int, int,
↳ obstack*, transliterations))
35
36      /usr/bin/ld: error: undefined symbol: libiconv_
↳ open
37
38
39      referenced by charset.c
40      charset.o:(wchar_iterator::~wchar_
↳ iterator(unsigned char const*, unsigned long, char const*, unsigned
↳ long))
41
42      /usr/bin/ld: error: undefined symbol:
↳ libiconv_close
43
44
45      referenced by charset.c
46      charset.o:(wchar_iterator::~~wchar_
↳ iterator())
47
48      /usr/bin/ld: error: undefined
↳ symbol: libiconv_close
49
50

```

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```

51 referenced by charset.c
52 charset.o:(validate(gdbarch*))
53 c++: error: linker command_
↳ failed with exit code 1 (use -v to see invocation)
54 gmake[2]: *** [Makefile:1889:_
↳ gdb] Error 1
55 gmake[2]: Leaving directory '/
↳ usr/home/mayes/dev/rsb/rtems/build/sparc-rtems5-gdb-8.3-x86_64-
↳ freebsd12.0-1/build/gdb'
56 gmake[1]: *** [Makefile:8792:_
↳ all-gdb] Error 2
57 gmake[1]: Leaving directory '/
↳ usr/home/mayes/dev/rsb/rtems/build/sparc-rtems5-gdb-8.3-x86_64-
↳ freebsd12.0-1/build'
58 gmake: *** [Makefile:849:_
↳ all] Error 2
59 shell cmd failed: /bin/sh -ex_
↳ /usr/home/mayes/dev/rsb/rtems/build/sparc-rtems5-gdb-8.3-x86_64-
↳ freebsd12.0-1/do-build
60 error: building sparc-rtems5-
↳ gdb-8.3-x86_64-freebsd12.0-1
61 + }}}
62
63 * **Milestone** set to %"5.1"

```

Author: Trac Migrate 2019-11-06T10:26:42.000Z

Original author: jeff.mayes

I was able to build the RTEMS 5 tools with 12.0-RELEASE-p2. I will try to update to the latest FreeBSD 12 and see what happens.

Author: Joel Sherrill 2019-11-06T14:35:01.000Z

Original author: jeff.mayes

Replying to [Sebastian Huber](#):

I was able to build the RTEMS 5 tools with 12.0-RELEASE-p2. I will try to update to the latest FreeBSD 12 and see what happens.

This is with a fresh install from their images. Jeff can give you the URL if it matters. Hopefully, there is something stupid on our side and not a difference between FreeBSD pre-release images and the final release image.

Author: Trac Migrate 2019-11-06T14:38:09.000Z

Original author: jeff.mayes

I did an update to FreeBSD 12.1 and at least ARM is building fine:

<https://lists.rtems.org/pipermail/build/2019-November/008065.html>

Author: Chris Johns 2019-11-06T21:37:59.000Z

Original author: jeff.mayes

Do you have libiconv installed?

```
1 $ pkg which /usr/local/lib/libiconv.a
2 /usr/local/lib/libiconv.a was installed by package libiconv-1.14_11
```

Author: Trac Migrate 2019-11-07T06:00:10.000Z

Original author: jeff.mayes

Yes, I have the same output. We installed the following packages:

```
1 pkg install git
2 pkg install python
3 pkg install bison
4 pkg install gmake
5 pkg install subversion
6 pkg install makeinfo
7 pkg install texinfo
```

Author: Joel Sherrill 2019-11-07T13:46:24.000Z

Original author: jeff.mayes

Strangely, it looks like the autoconf tests must be passing to detect libiconv but when it comes time to link, the symbols aren't there.

Do you know how to turn on verbose mode so the make shows the real commands? That might help some.

Author: Trac Migrate 2019-11-07T15:04:17.000Z

Original author: jeff.mayes

I updated to FreeBSD 12.1 yesterday, but it still fails the same way.

Yes, I have libiconv installed, same version shown above.

However, I didn't have subversion or makeinfo installed. Just installed subversion, so I'll try again and report back. What's up with makeinfo?

```
1 # pkg install makeinfo
2 Updating FreeBSD repository catalogue...
3 FreeBSD repository is up to date.
```

(continues on next page)

(continued from previous page)

```

4 All repositories are up to date.
5 pkg: No packages available to install matching 'makeinfo' have been_
  ↳ found in the repositories

```

Author: Trac Migrate 2019-11-07T16:22:39.000Z

Original author: jeff.mayes

Still fails after subversion install, unsurprisingly.

Does this look correct? I excluded matches in /home directories.

```

1 # find / -name "libiconv*"
2 /usr/ports/converters/libiconv
3 /usr/lib/i18n/libiconv_std.so.4
4 /usr/lib/i18n/libiconv_none.so
5 /usr/lib/i18n/libiconv_std.so
6 /usr/lib/i18n/libiconv_none.so.4
7 /usr/lib/debug/boot/kernel/libiconv.ko.debug
8 /usr/local/share/licenses/libiconv-1.14_11
9 /usr/local/share/doc/libiconv
10 /usr/local/lib/libiconv.a
11 /usr/local/lib/libiconv.so.2
12 /usr/local/lib/libiconv.so.2.5.1
13 /usr/local/lib/libiconv.so
14 /usr/lib32/i18n/libiconv_none.so
15 /usr/lib32/i18n/libiconv_std.so.4
16 /usr/lib32/i18n/libiconv_std.so
17 /usr/lib32/i18n/libiconv_none.so.4
18 /boot/kernel/libiconv.ko
19 /boot/kernel.old/libiconv.ko
20 /var/cache/pkg/libiconv-1.14_11-1b77da9274.txz
21 /var/cache/pkg/libiconv-1.14_11.txz

```

Author: Chris Johns 2019-11-07T21:29:46.000Z

Original author: jeff.mayes

Replying to [Jeff Mayes](#):

Does this look correct? I excluded matches in /home directories.

FreeBSD makes a **distinction** between /usr and /usr/local. Anything under /usr excluding /usr/local is part of the base OS and you should not touch. Additional packages or ports are installed under /usr/local. If you look back at comment 5 by me you will see I have referenced a /usr/local path and not a /usr path like you have.

There are a couple of paths ...

1. You need to check if you have the libiconv package installed as ask in comment 5. Maybe try `pkg info | grep libiconv` to see.
2. When I originally added libiconv support for FreeBSD the OS versions of the libraries were not up to date and so the libiconv port was needed. The OS versions maybe suitable now, however at a guess I would say they are not as the build fails. You could look closely at the errors and OS provided library to know.

Author: Chris Johns 2019-11-07T21:32:40.000Z

Original author: jeff.mayes

Replying to **Joel Sherrill**:

Strangely, it looks like the autoconf tests must be passing to detect libiconv but when it comes time to link, the symbols aren't there. Do you know how to turn on verbose mode so the make shows the real commands? That might help some.

The log contains all the command and if that is not enough detail try `--trace (1)`

The log will show a shell script is created and I think that script is run with `set -x` which prints the commands. On a failed build the script is left in the build tree.

- (1) <https://docs.rtems.org/branches/master/user/rsb/commands.html#set-builder-sb-set-builder>

Author: Joel Sherrill 2019-11-07T22:04:58.000Z

Original author: jeff.mayes

Replying to **Chris Johns**:

Replying to **Joel Sherrill**:

Strangely, it looks like the autoconf tests must be passing to detect libiconv but when it comes time to link, the symbols aren't there. Do you know how to turn on verbose mode so the make shows the real commands? That might help some.

The log contains all the command and if that is not enough detail try `--trace (1)` The log will show a shell script is created and I think that script is run with `set -x` which prints the commands. On a failed build the script is left in the build tree.

The RSB isn't the problem here. It is the GDB build itself. They have gone to a quiet build which only prints something like "CCLD gdb" which isn't helpful at all.

I think you mentioned that the main libiconv package may be broken and that there is another in ports. Is that correct? If so, should the default one be removed and the ports one used?

Author: Chris Johns 2019-11-07T22:39:43.000Z

Original author: jeff.mayes

Replying to [Joel Sherrill](#):

Replying to [Chris Johns](#):

Replying to [Joel Sherrill](#):

Strangely, it looks like the autoconf tests must be passing to detect libiconv but when it comes time to link, the symbols aren't there. Do you know how to turn on verbose mode so the make shows the real commands? That might help some.

The log contains all the command and if that is not enough detail try `--trace (1)` The log will show a shell script is created and I think that script is run with `set -x` which prints the commands. On a failed build the script is left in the build tree.

The RSB isn't the problem here. It is the GDB build itself. They have gone to a quiet build which only prints something like "CCLD gdb" which isn't helpful at all.

I am OK with that change. There is so much rubbish printed that is meaningless. Assuming automake I suggest you have a look at.

https://www.gnu.org/software/automake/manual/html_node/Automake-Silent-Rules.html

Try adding `V=1` to the make command line.

I think you mentioned that the main libiconv package may be broken and that there is another in ports. Is that correct?

I am not sure it is broken, that depends on how it is used and the interfaces provided. Is this library part of a standard? If it is not then I would not use "broken".

If so, should the default one be removed and the ports one used?

No, ports are added. FreeBSD provides the kernel and base user land as a release. This means a libiconv may be provided by the OS base if it is needed that is suitable for the base OS user land executables. A port is also provided so there may be differences other software such as gdb requires.

I feel you are approaching the issue from a Linux point of view which is a kernel as a separate configuration item plus the distro's user land where all the user land is under `/usr` as one big and hopefully happy family. FreeBSD follows the historical (?) path of the kernel and base user land being a

single controlled and released item and so you do not touch it. The benefit is the base OS is tested to work and if you do not touch it no matter what you install you can at least recover back to that base.

Author: Joel Sherrill 2020-04-05T16:24:00.000Z

Original author: jeff.mayes

The only response I got on the gdb list said the person manually overrode where libiconv was located. I can't seem to find that email now. The autoconf is broken, known broken, ...

I have no idea why this works for others. It is still broken as of my overnight build.

<https://lists.rtems.org/pipermail/build/2020-April/012863.html>

If this works for others on FreeBSD 12, I would like to know how.

Author: Chris Johns 2020-04-06T00:04:13.000Z

Original author: jeff.mayes

I recently add this to for 12 ...

<https://git.rtems.org/rtems-source-builder/commit/source-builder/sb/freebsd.py?id=599c4d7c87fab531014a614f2a32b56be0a3ce28> <https://git.rtems.org/rtems-source-builder/tree/source-builder/sb/freebsd.py#n113>

Is there an issue on 12 with this?

Author: Joel Sherrill 2020-04-06T00:12:59.000Z

Original author: jeff.mayes

The failure per <https://lists.rtems.org/pipermail/build/2020-April/012863.html> (sparc) and <https://lists.rtems.org/pipermail/build/2020-April/012855.html> (riscv) is in sis. I have no idea is this is before or after where gdb would be built and trip the iconv issue. Looks like a separate issue.

```

1 checking whether make sets $(MAKE)... yes
2 checking build system type... x86_64-pc-freebsd12.1
3 checking host system type... x86_64-pc-freebsd12.1
4 checking for x86_64-freebsd12.1-gcc... no
5 checking for gcc... gcc
6 checking whether the C compiler works... no
7 configure: error: in `/usr/home/joel/rtems-cron-5/rtems-source-builder/
  ↳ rtems/build/sis-2.21-x86_64-freebsd12.1-1/sis-2.21':
8 configure: error: C compiler cannot create executables
9 See `config.log' for more details
10 shell cmd failed: /bin/sh -ex /usr/home/joel/rtems-cron-5/rtems-source-
  ↳ builder/rtems/build/sis-2.21-x86_64-freebsd12.1-1/do-build

```

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```

11 error: building sis-2.21-x86_64-freebsd12.1-1
12 See error report: rsb-report-sis-2.21-x86_64-freebsd12.1-1.txt
13 -----
    ↪ - - -

```

Author: Chris Johns 2020-04-06T06:49:26.000Z

Original author: jeff.mayes

Are you building gdb with gcc and not cc?

Author: Joel Sherrill 2020-04-17T13:06:38.000Z

Original author: jeff.mayes

I have uninstalled GCC on our test machine. That seems to have resolved this.

How do we want to account for, document, and check this?

Author: Chris Johns 2020-04-28T01:49:17.000Z

Original author: jeff.mayes

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

I have updated the documentation. There was another ticket for that task.

4.2.1.298 3630 - Build of rtems-tools fails with i686-w64-mingw32

Id	3630
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2018-12-02T16:01:32.000Z
Updated	2020-04-28T01:45:51.000Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3630
Merges	0

Original author: Kaidoho

Hi,

I am following

<https://docs.rtems.org/branches/master/user/hosts/windows.html>

to build a Windows Host toolchain on Linux Mint 19. However, the build of rtems-tools fails with: “unknown host: i686-w64-mingw32”.

I can track the issue down to the function “check_options” in the wscript. The function expects a host called “mingw32” or “x86_64-w64-mingw32”. My naive solution would be to simply extend the list with “i686-w64-mingw32”, but I’ve just started with RTEMS so I might have chosen a wrong path in an earlier step.

- [0001-Allow-build-with-i686-w64-mingw32.patch](#)
- [rsb-report-rtems-tools-6db01e577fed1dc88018106b81dd531f2ecc1fd0-1.txt](#)

Author: Trac Migrate 2018-12-02T16:05:51.000Z

Original author: Kaidoho

- **Attachment** [rsb-report-rtems-tools-6db01e577fed1dc88018106b81dd531f2ecc1fd0-1.txt](#) added

RSB Report

Author: Trac Migrate 2018-12-02T16:06:58.000Z

Original author: Kaidoho

- **Attachment** [0001-Allow-build-with-i686-w64-mingw32.patch](#) added

Patch to allow build of rtems-tools with i686-w64-mingw32

Author: Trac Migrate 2018-12-03T19:15:43.000Z

Original author: Kaidoho

Build works fine with a 64bit toolchain. The reason why I was using i686 was the example given in

<https://docs.rtems.org/branches/master/rsb/cross-canadian-cross.html#cross-building>

Author: Chris Johns 2018-12-04T03:23:36.000Z

Original author: Kaidoho

- **Milestone** set to %”5.1”
- **Owner** set to @chrisj
- **Status** changed from *new* to *accepted*

Thanks. I will update the documentation and will close the ticket when I commit the change.

Author: Trac Migrate 2018-12-06T21:00:30.000Z

Original author: Kaidoho

Dear Chris,

sorry for getting back on this, but the question that I have is: is it intendend / expected that the build fails with the i686 toolchain? If not - then i'll look into it and submit a patch. If it is expected - well yeah please update the documentation.

Thanks & Regards Markus

Author: Chris Johns 2018-12-09T23:41:50.000Z

Original author: Kaidoho

Replying to [Markus Bernd Moessner](#):

sorry for getting back on this, but the question that I have is: is it intendend / expected that the build fails with the i686 toolchain? No it is not. It is a simple matter of there being limited time and many possible combinations.

If not - then i'll look into it and submit a patch. If it is expected - well yeah please update the documentation. Updates are most welcome. Thank you.

Author: Trac Migrate 2018-12-10T16:57:22.000Z

Original author: Kaidoho

Ok, thank you for taking the time to clarify this.

Author: Trac Migrate 2020-04-28T01:45:51.000Z

Original author: Kaidoho

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"a1a05c7c630529e90fab632c6750bb2e825538b6/rtems-tools"
a1a05c7/rtems-tools]:

```
1 Allow build with i686-w64-mingw32
2
3 Closes #3630
```

4.2.1.299 3231 - RTEMS Top level README needs updating.

Id	3231
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-11-12T05:05:32.000Z
Updated	2020-04-27T07:09:25.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3231
Merges	0

- Add markdown header.
- Does the release process add a VERSION file to releases?
- Docs link is wrong.
- Anything else we need to add?

Author: Chris Johns 2018-10-14T20:26:01.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *accepted*

Author: Trac Migrate 2020-04-27T01:36:16.000Z

In [changeset:"396e98305e31f7e4ffc4494bdc6cbc0edeba9f1d/rtems" 396e9830/rtems]:

```
1 README: Fix the rtems.git line
2
3 Updates #3231
```

Author: Chris Johns 2020-04-27T07:09:25.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

4.2.1.300 3961 - bsp/arm: CPU counter based on arm generic timer doesn't work correctly

Id	3961
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-04-20T06:30:19.000Z
Updated	2020-04-20T07:08:59.000Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3961
Merges	0

Original author: Christian Mauderer

On at least the imx BSP the CPU counter based on the arm generic timer isn't initialized correctly. The frequency is set to 0.

Author: Trac Migrate 2020-04-20T07:08:59.000Z

Original author: Christian Mauderer

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"222d687969e008cdd464b1f92c79e83671094231/rtems" 222d6879/rtems]:

```

1 bsp/arm: Fix uninitialized value in generic timer
2
3 _CPU_Counter_frequency() can be called by the rtems_counter
4 initialization before arm_gt_clock_initialize() initializes the value
5 used in _CPU_Counter_frequency().
6
7 Closes #3961.
```

4.2.1.301 3785 - Add RISC-V BSP with support for the Freedom E310 Arty A7 FPGA

Id	3785
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-08-16T10:26:44.000Z
Updated	2020-04-16T23:47:04.000Z
Milestone	5.1
Labels	arch:riscv, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3785
Merges	0

Original author: pragnesh

Author: Joel Sherrill 2019-08-16T13:25:22.000Z

Original author: pragnesh

Please update the description of this ticket to clarify. My questions include:

- Are you planning to submit a BSP variant for this or are you asking for one?
- Either way please link to the hardware, manuals, etc.

Author: Trac Migrate 2019-08-16T13:38:55.000Z

Original author: pragnesh

Replying to **Joel Sherrill**:

Please update the description of this ticket to clarify. My questions include: * Are you planning to submit a BSP variant for this or are you asking for one? * Either way please link to the hardware, manuals, etc.

- 1) Are you planning to submit a BSP variant for this or are you asking for one?

I have already sent a patch for this new BSP variant (Freedom E310) to devel@ rtems.org, I created this ticket so that i can give reference in the commit message. i followed this <https://docs.rtems.org/branches/master/user/support/contrib.html>

Let me know, Is this a right procedure to submit a patch?

- 2) Either way please link to the hardware, manuals, etc.

I will update the same in description.

Author: Trac Migrate 2019-08-19T08:59:01.000Z

Original author: pragnesh

Link for the hardware and manuals

- <https://www.sifive.com/documentation> (Freedom FE310-G002 Manual)
- <https://www.digikey.com/eewiki/display/LOGIC/Digilent+Arty+A7+with+Xilinx+Artix-7+Implementing+SiFive+FE310+RISC-V>
- https://sifive.cdn.prismic.io/sifive%2Fed96de35-065f-474c-a432-9f6a364af9c8_sifive-e310-arty-gettingstarted-v1.0.6.pdf

Author: Trac Migrate 2019-10-23T06:12:46.000Z

Original author: pragnesh

In [changeset:"a7f5e42cc5234f239a01b8f69847ebb018710948/rtems" a7f5e42c/rtems]:

```
1 riscv: add freedom E310 Arty A7 bsp
2
3 Added support for Sifive Freedom FE310 soc on Arty A7 FPGA board.
4 Update #3785.
5
6 Signed-off-by: Pragnesh Patel <pragnesh.patel@sifive.com>
```

Author: Trac Migrate 2019-11-14T10:49:33.000Z

Original author: pragnesh

In [changeset:"df9426f970c6c3ff11300cefbf221abee679b270/rtems" df9426f/rtems]:

```
1 bsp/riscv: riscv_get_core_frequency()
2
3 Always provide this function. Return 0 by default. Fix formatting.
4 Simplify function.
5
6 Update #3785.
```

Author: Trac Migrate 2019-11-14T10:49:36.000Z

Original author: pragnesh

In [changeset:"5a1bc17970f1841f8956c3e2257639f4f0f03248/rtems" 5a1bc179/rtems]:

```
1 bsp/riscv: Remove bogus Automake conditional
2
3 Update #3785.
```

Author: Trac Migrate 2019-11-14T10:49:43.000Z

Original author: pragnesh

In [changeset:"ae5546704d15fa87a111760d777e95321143c199/rtems" ae554670/rtems]:

```
1 bsp/riscv: Fix format and warnings
2
3 Update #3785.
```

Author: Trac Migrate 2019-11-29T07:46:02.000Z

Original author: pragnesh

In [changeset:"f0864b3835de4f6336f06c1cefc2fbc38692166b/rtems-docs" f0864b3/rtems-docs]:

```
1 user: Add frdme310arty BSP variant
2
3 Signed-off-by: Pragnesh Patel <pragnesh.patel@sifive.com>
4
5 Update #3785.
```

Author: Joel Sherrill 2019-12-12T17:19:47.000Z

Original author: pragnesh

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Closing. The BSP and user manual contents are merged. Thank you for submitting the BSP

4.2.1.302 3815 - Improve SMP EDF scheduler configuration

Id	3815
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-11-05T10:29:08.000Z
Updated	2020-04-15T14:57:22.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3815
Merges	0

Original author: sebastian.huber

It is currently quite easy to misconfigure the SMP EDF scheduler so that not enough memory is reserved for the scheduler data structures. The only feedback to the user from these configuration errors is a memory corruption. Improve the configuration means or at least issue a fatal error.

Author: Trac Migrate 2019-12-20T06:17:22.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"806fe963a299ab2b59a7735dcd8a52bc9d5f8666/rtems"806fe963/rtems]:

```
1 config: Improve EDF SMP scheduler configuration
2
3 Use CONFIGURE_MAXIMUM_PROCESSORS to configure the EDF SMP scheduler
4 context. This avoids hard to debug configuration errors resulting in
5 memory corruptions.
6
7 Close #3815.
```

Author: Trac Migrate 2020-04-15T14:57:22.000Z

Original author: sebastian.huber

In [changeset:"7b7efb2ed01cff90e47a3a9e8dd93286981fc3b1/rtems-docs"7b7efb2/rtems-docs]:

```
1 c-user: Fix RTEMS_SCHEDULER_EDF_SMP()
2
3 Update #3815.
```

4.2.1.303 2693 - Update doc to reflect obsoleting rtems_clock_get()

Id	2693
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2016-04-14T21:52:32.000Z
Updated	2020-04-15T14:57:16.000Z
Milestone	5.1
Labels	doc, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2693
Merges	0

Ticket to reflect documentation change needed on the master but not on 4.11. When new documentation format is available for master, this needs to be accounted for.

- [0002-doc-user-clock.t-Remove-obsolete-rtems_clock_get.patch](#)

Author: Joel Sherrill 2016-04-14T21:53:01.000Z

- **Attachment** [0002-doc-user-clock.t-Remove-obsolete-rtems_clock_get.patch](#) added

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-06-14T13:50:19.000Z

Does it make sense to remove this function? It is just an API glue layer and adds no overhead to an application if not used.

Author: Trac Migrate 2017-10-11T23:42:57.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"21e0fcd28f54d8d57106fe14b6e5ed13e2685be7/rtems-docs" 21e0fcd/rtems-docs]:

```
1 c-user: Update to reflect rtems_clock_get() being obsoleted.
2
3 Closes #2693.
```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Trac Migrate 2020-04-15T14:57:16.000Z

In [changeset:"e150e1689adc85348d0c2d70c4fb0c1a31226b69/rtems-docs" e150e16/rtems-docs]:

```
1 c-user: Add removed directive rtems_clock_get()
2
3 Be in line with Task Manager chapter.
4
5 Update #2693.
```

4.2.1.304 3895 - Add a migration to RTEMS 5 chapter to User Manual

Id	3895
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-03-04T07:19:10.000Z
Updated	2020-04-15T14:57:14.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3895
Merges	0

Original author: sebastian.huber

Add a chapter to the User Manual to aid the user to migrate applications from previous RTEMS versions to RTEMS 5.

Author: Chris Johns 2020-03-04T08:23:07.000Z

Original author: sebastian.huber

Thanks for adding the ticket.

I am happy to add this section. I will complete my current doco task and then do this.

Author: Trac Migrate 2020-03-12T21:23:52.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"4726207d91e0dd32e63c9f74377de29937737ff5/rtems-docs" 4726207/rtems-docs]:

```

1 user: Add a migration chapter
2
3 This is a start with the hope we collect useful pieces to aid porting.
4 Please add to this.
5
6 Closes #3895

```

Author: Trac Migrate 2020-04-15T14:57:14.000Z

Original author: sebastian.huber

In [changeset:"02bded3f033e431a0653709c61c6a318834f661b/rtems-docs" 02bded3/rtems-docs]:

```
1 user: Update migration guide
2
3 Update #3895.
```

4.2.1.305 3949 - clock_settime() can lead to a failed _Assert()

Id	3949
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-04-13T17:07:07.000Z
Updated	2020-04-14T05:21:53.000Z
Milestone	5.1
Labels	api::posix, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3949
Merges	0

Original author: sebastian.huber

A time too far in the future can lead to a failed assertion in `_Watchdog_Ticks_from_timespec()`. This should be an error status instead.

Author: Trac Migrate 2020-04-14T05:21:50.000Z

Original author: sebastian.huber

In [changeset:"fb07f730c1dd400b6d2f79a5393ff5e3cdded73e/rtems" fb07f730/rtems]:

```
1 score: Return status in _TOD_Set()
2
3 Update #3949.
```

Author: Trac Migrate 2020-04-14T05:21:53.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"ea227af2d4fd09d5406d88c4b189c60cbcf70768/rtems" ea227af/rtems]:

```

1 score: Check time of day in _TOD_Set()
2
3 Close #3949.

```

4.2.1.306 3904 - Add methods to dump the event records in base64 encoding (optionally zlib compressed)

Id	3904
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-03-13T08:28:26.000Z
Updated	2020-04-12T16:05:15.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3904
Merges	0

Original author: sebastian.huber

This helps to get the event records easily via a serial line in case of a crash.

Author: Trac Migrate 2020-03-13T11:36:12.000Z

Original author: sebastian.huber

- **Summary** changed from *Add methods to dump the event records in base64 encoding (optionally compressed)* to *Add methods to dump the event records in base64 encoding (optionally zlib compressed)*

Author: Trac Migrate 2020-03-18T06:50:00.000Z

Original author: sebastian.huber

In [changeset:"a6b36334593a619d7624bb91ccab19192e4f523e/rtems" a6b36334/rtems]:

```

1 score: Add _IO_Base64()
2
3 Update #3904.

```

Author: Trac Migrate 2020-03-18T06:50:04.000Z

Original author: sebastian.huber

In [changeset:"c584d4eda4605b14b3731d72b85305ad58efcb97/rtems" c584d4e/rtems]:

```

1 rtems: Add rtems_put_char()
2
3 Update #3904.

```

Author: Trac Migrate 2020-03-18T06:50:07.000Z

Original author: sebastian.huber

In [changeset:"ab42b3e1002306ed343adc47c460788ed31df66f/rtems" ab42b3e/rtems]:

```

1 record: Add rtems_record_dump()
2
3 Add rtems_record_dump_base64() and rtems_record_dump_base64_zlib().
4
5 Add CONFIGURE_RECORD_FATAL_DUMP_BASE64 and
6 CONFIGURE_RECORD_FATAL_DUMP_BASE64_ZLIB configuration options.
7
8 Update #3904.

```

Author: Trac Migrate 2020-03-19T06:38:45.000Z

Original author: sebastian.huber

In [changeset:"14f0957b00d104a538b839f6e41e04cf670a938c/rtems-tools" 14f0957/rtems-tools]:

```

1 record: Fix format
2
3 Update #3904.

```

Author: Trac Migrate 2020-03-19T06:38:47.000Z

Original author: sebastian.huber

In [changeset:"4aa0d5f42fc5baba54c5723d207f78d1074f4445/rtems-tools" 4aa0d5f/rtems-tools]:

```

1 record: Guard config.h include
2
3 Update #3904.

```

Author: Trac Migrate 2020-03-19T06:38:50.000Z

Original author: sebastian.huber

In [changeset:"8db5ce1e95c1581be665fb228d3cbd3ccea78f49/rtems-tools" 8db5ce1/rtems-tools]:


```

1 record: Format file header
2
3 Update #3904.

```

Author: Trac Migrate 2020-03-19T06:38:52.000Z

Original author: sebastian.huber

In [changeset:"b60abbfa83e09895b116551f7b44a431b0ee6d42/rtems-tools"
b60abbf/rtems-tools]:

```

1 record: Add INI file parser
2
3 Import from:
4
5 https://github.com/benhoyt/inih
6
7 commit 351217124ddb3e3fe2b982248a04c672350bb0af
8 Author: Stephan Lachnit <stephanlachnit@protonmail.com>
9 Date: Sun Mar 1 07:31:28 2020 +0100
10
11 r48 release (#100)
12
13 * Bump copyright to 2020
14 * Remove makefile for static library
15 * meson: version 48
16
17 Signed-off-by: Stephan Lachnit <stephanlachnit@protonmail.com>
18
19 Update #3904.

```

Author: Trac Migrate 2020-03-19T06:38:55.000Z

Original author: sebastian.huber

In [changeset:"b066705a5524f95187e93403c5227ac3f0efdf65/rtems-tools"
b066705/rtems-tools]:

```

1 record: Add option to print config default values
2
3 Update #3904.

```

Author: Trac Migrate 2020-03-19T06:38:57.000Z

Original author: sebastian.huber

In [changeset:"bfc8f2de784825448e0b44b83e32b9378d01d465/rtems-tools"
bfc8f2d/rtems-tools]:

```
1 record: Add filter base class
2
3 Update #3904.
```

Author: Trac Migrate 2020-03-19T06:38:59.000Z

Original author: sebastian.huber

In [changeset:"5bc9f73a48367b3fff95689e3467be1b9e1f97f8/rtems-tools"
5bc9f73/rtems-tools]:

```
1 record: Add base64 filter class
2
3 Update #3904.
```

Author: Trac Migrate 2020-03-19T06:39:02.000Z

Original author: sebastian.huber

In [changeset:"d96417111a51a1f28e1d0a10eb956169679d683e/rtems-tools"
d964171/rtems-tools]:

```
1 record: Add support for base64 encoded input
2
3 Update #3904.
```

Author: Trac Migrate 2020-03-19T06:39:04.000Z

Original author: sebastian.huber

In [changeset:"5fa2c3b3cb8fb04adb5dace900ce03e8b5a1c9b4/rtems-tools"
5fa2c3b/rtems-tools]:

```
1 record: Add zlib filter class
2
3 Update #3904.
```

Author: Trac Migrate 2020-03-19T06:39:06.000Z

Original author: sebastian.huber

In [changeset:"390522a4fa401b20c6767b045305d1e433d9b6c6/rtems-tools"
390522a/rtems-tools]:

```
1 record: Add support for zlib compressed input
2
3 Update #3904.
```

Author: Trac Migrate 2020-03-19T06:39:08.000Z

Original author: sebastian.huber

In [changeset:"16eff9bc02fdf7115cff85ea4d8030037e86e0d7/rtems-tools" 16eff9b/rtems-tools]:

```
1 record: Increase input buffer and alignment
2
3 Update #3904.
```

Author: Trac Migrate 2020-03-23T06:06:22.000Z

Original author: sebastian.huber

In [changeset:"68f90be3c8a2d770a14d0319386ef19b650377d2/rtems-source-builder" 68f90be/rtems-source-builder]:

```
1 5: Update rtems-tools
2
3 Pick up new features for rtems-record-ltng.
4
5 Update #3904.
```

Author: Trac Migrate 2020-03-23T06:41:33.000Z

Original author: sebastian.huber

In [changeset:"3fd488915755766eb499ae8e002677734c64809e/rtems" 3fd4889/rtems]:

```
1 conf: Improve evaluation of event recording opts
2
3 Check for configuration errors earlier. Allow fatal dumps without the
4 other extensions. Add some warnings.
5
6 Update #3904.
```

Author: Trac Migrate 2020-03-24T06:50:59.000Z

Original author: sebastian.huber

In [changeset:"62d58f229f7b499ce02ed644c3d628281bbd7d99/rtems-docs" 62d58f2/rtems-docs]:

```
1 c-user: Document new event record config options
2
3 Update #3904.
```

Author: Trac Migrate 2020-04-12T16:05:15.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"ea4c098bc29250b79f3200bd4dceef8becff44fd/rtems-docs"ea4c098/rtems-docs]:

```
1 user: Document event recording
2
3 Close #3904.
```

4.2.1.307 3938 - Many (~40) BSPs Fail to Link all Tests

Id	3938
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2020-04-06T19:00:15.000Z
Updated	2020-04-08T13:51:02.000Z
Milestone	5.1
Labels	priority::highest, resolution::fixed, tickettype::defect, tool::test, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3938
Merges	0

When configured as as show, ~40 BSPs (list below) cannot link all of the tests due to out of memory issues:

```
1 ../rtems/configure --target=arm-rtems5 --prefix=/home/joel/rtems-work/bsp-install/
↪ --disable-multiprocessing --enable-cxx --disable-rdbg --enable-maintainer-mode_
↪ --enable-tests --disable-networking --disable-posix --disable-itron --disable-
↪ deprecated --disable-ada --disable-expada --enable-rtemsbsp=atsamv
```

arm-atsamv arm-lm3s3749 arm-lm3s6965 arm-lm4f120 arm-lpc1768_mbed_ahb_ram_eth
 arm-lpc1768_mbed_ahb_ram arm-lpc1768_mbed arm-lpc2362 arm-lpc23xx_tli800 arm-
 lpc32xx_mzx_stage_1 arm-rtl22xx arm-rtl22xx_t arm-stm32f105rc arm-stm32f4 arm-
 tms570ls3137_hdk_intram arm-tms570ls3137_hdk arm-tms570ls3137_hdk_with_loader
 m68k-mcf52235 m68k-mcf5225x m68k-mrm332 powerpc-gwlcfm powerpc-mpc5566evb
 powerpc-mpc5566evb_spe powerpc-mpc5643l_dpu powerpc-mpc5643l_evb powerpc-
 mpc5668g powerpc-mpc5674f_ecu508_app powerpc-mpc5674f_ecu508_boot powerpc-
 mpc5674fevb powerpc-mpc5674fevb_spe powerpc-mpc5674f_rsm6 sh-gensh1 sh-gensh2
 sh-simsh1 sh-simsh2e sh-simsh2 sh-simsh4 sparc64-niagara sparc64-usiii

Author: Trac Migrate 2020-04-06T19:01:25.000Z

I already fixed this in the new build system.

Author: Trac Migrate 2020-04-06T19:05:55.000Z

The sparc64 is [#3936](#).

Author: Joel Sherrill 2020-04-06T19:08:12.000Z

Is this an attempt to avoid fixing it on the master before we cut a release branch?
This is a failure for ~25% of the BSPs in the tree.

Author: Trac Migrate 2020-04-06T19:08:40.000Z

In [changeset:"c547470e56c2bdf10402d543be5f0c0136f7a31d/rtems"
c547470e/rtems]:

```
1 tests: Small memory exclude for record02
2
3 Update #3938.
```

Author: Trac Migrate 2020-04-06T19:10:10.000Z

Replying to [Joel Sherrill](#):

Is this an attempt to avoid fixing it on the master before we cut a release
branch? This is a failure for ~25% of the BSPs in the tree. No, it is a
statement that I work on this!

Author: Trac Migrate 2020-04-06T19:22:58.000Z

In [changeset:"92a3a19c757ca0c62eaec2bb55621a562758627b/rtems"
92a3a19c/rtems]:

```
1 tests: Exclude record02 for some BSPs
2
3 Update #3938.
```

Author: Trac Migrate 2020-04-06T19:30:50.000Z

I should be fixed.

Author: Joel Sherrill 2020-04-06T19:44:06.000Z

Thanks. Building with your commit. arm/atsamv fails linking record02.
I will post more as the build progresses or finishes.

Author: Trac Migrate 2020-04-06T20:10:32.000Z

The arm/atsamv should be fixed:

<https://git.rtems.org/rtems/diff/bsps/arm/atsam/config/atsamv-testsuite.tcfg?id=92a3a19c757ca0c62eaec2bb55621a562758627b>

Author: Trac Migrate 2020-04-07T22:15:03.000Z

In [changeset:"f74d70e6823c3d5119bc88d1de0863333a42c3e1/rtems" f74d70e6/rtems]:

```
1 lm4f120-testsuite.tcfg: Add psxsignal07
2
3 Updates #3938.
```

Author: Trac Migrate 2020-04-07T22:15:06.000Z

In [changeset:"fe5d50ed438eeb52a9a5c5534380a9fe8cd151d7/rtems" fe5d50ed/rtems]:

```
1 lpc1768_mbed_ahb_ram_eth-testsuite.tcfg: Add psxsignal07
2
3 Updates #3938.
```

Author: Trac Migrate 2020-04-07T22:15:09.000Z

In [changeset:"dcb097a5cb1df9e986ee1d611bbb8cdfa34654e8/rtems" dcb097a/rtems]:

```
1 lpc2362-testsuite.tcfg: Add psxaoi03 and psxsignal07
2
3 Updates #3938.
```

Author: Trac Migrate 2020-04-07T22:15:13.000Z

In [changeset:"a7ea726fbd8374bb428a99bf450c308f1d48f5df/rtems" a7ea726f/rtems]:

```
1 lpc1768_mbed-testsuite.tcfg: Add psxaoi03 and psxsignal07
2
3 Updates #3938.
```

Author: Trac Migrate 2020-04-07T22:15:16.000Z

In [changeset:"af7e519ec9f862316caa8647a00b799b061adf0f/rtems" af7e519/rtems]:

```
1 mcf52235-testsuite.tcfg: Add sp16
2
3 Updates #3938.
```

Author: Trac Migrate 2020-04-07T22:15:19.000Z

In [changeset:"f4935345de206eb42b5e123754a88f006191dffa/rtems" f493534/rtems]:

```
1 lpc23xx_tli800-testsuite.tcfg: Add psxaoi03 and psxsignal07
2
3 Updates #3938.
```

Author: Trac Migrate 2020-04-08T05:19:24.000Z

Sorry for not catching the POSIX tests. I assigned a bit more RAM to my build ramdisk and now it builds with POSIX enabled.

Author: Joel Sherrill 2020-04-08T13:30:22.000Z

I made a series of commits and an overnight build shows this is resolved. The epiphany is the only BSP which doesn't build and that's a GCC ICE.

Thanks.

Closing.

Author: Joel Sherrill 2020-04-08T13:51:02.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

4.2.1.308 3936 - C++ thread-local storage broken on sparc64

Id	3936
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Gedare Bloom
Created	2020-04-06T12:12:48.000Z
Updated	2020-04-06T17:18:05.000Z
Milestone	5.1
Labels	arch:sparc64, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3936
Merges	0

Original author: sebastian.huber

```

1 gmake[5]: Entering directory '/build/git-build/b-niagara/sparc64-rtems5/c/niagara/
  ↳ testsuites/sptests'
2 sparc64-rtems5-g++ -mcpu=niagara -g -O2 -ffunction-sections -fdata-sections -
  ↳ Wall -B./.../lib/libbsp/sparc64/niagara -B/home/EB/sebastian_h/git-rtems-
  ↳ 5/bsps/sparc64/niagara/start -specs bsp_specs -qrtems -L./.../cpukit -L/home/
  ↳ EB/sebastian_h/git-rtems-5/bsps/sparc64/shared/start -Wl,--wrap=printf -Wl,--
  ↳ wrap=puts -Wl,--wrap=putchar -Wl,--gc-sections -o sptls02.exe sptls02/sptls02-
  ↳ init.o sptls02/sptls02-var.o ./.../lib/libbsp/sparc64/niagara/librtemsbsp.a ./
  ↳ .../cpukit/librtemscpu.a ./.../cpukit/librtemstest.a
3 /build/rtems/5/lib/gcc/sparc64-rtems5/7.5.0/.../.../sparc64-rtems5/bin/ld:
  ↳ warning: dot moved backwards before `.got'
4 /build/rtems/5/lib/gcc/sparc64-rtems5/7.5.0/.../.../sparc64-rtems5/bin/ld:
  ↳ warning: dot moved backwards before `.got'
5 /build/rtems/5/lib/gcc/sparc64-rtems5/7.5.0/.../.../sparc64-rtems5/bin/ld:
  ↳ section .got LMA [00000000000317c0,00000000000317c7] overlaps section .data LMA
  ↳ [0000000000031018,00000000000319d7]

```

One option is to disable this test on sparc64.

Author: Gedare Bloom 2020-04-06T16:15:43.000Z

Original author: sebastian.huber

I'm going to take a brief look today. I haven't been using the sparc64 since 2012 so there is not much motive for me other than keeping it maintained. If it is too much trouble I will let it decay down the tiers toward deprecation.

Author: Joel Sherrill 2020-04-06T16:27:03.000Z

Original author: sebastian.huber

I was disappointed in general when I looked for ABI definitions for TLS for various architectures. I think there is an Ulrich Drepper document describing a few (<https://>

[//akkadia.org/drepper/tls.pdf](https://akkadia.org/drepper/tls.pdf)) but I think it is undefined for a lot of architectures.

Does GCC have a default mechanism? I couldn't find any hint of architecture specific TLS in the few secondary architectures I looked at. If there is a default way of calling a method for TLS info, it would be great. But at this point, I don't think TLS works from a GCC perspective on maybe half the architectures we support.

sparc64 isn't a secondary gcc architecture so I am sure it works in GCC. Whether we want it around long term is another question entirely.

Author: Trac Migrate 2020-04-06T17:18:05.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"2db1fd857932518b8bc1269d0fec7b4780d2ec32/rtems" 2db1fd85/rtems]:

```
1 sparc64: update linkcmds with missing sections for TLS
2
3 Closes #3936.
```

4.2.1.309 3388 - rtems-tester: possible parsing error for qemuprep-altivec on exclude SMP configuration

Id	3388
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-04-11T22:30:55.000Z
Updated	2020-04-06T05:09:31.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3388
Merges	0

These failures have persisted across all the autoconf changes:

```
Failures:  powerpc/qemuprep-altivec:  configure -target=powerpc-rtems5 -enable-
rtemsbsp=qemuprep-altivec-prefix=/home/joel/rtems-work/bsps -enable-networking
-enable-smp ld/collect2:0 error: no error message found! powerpc/qemuprep-altivec: config-
ure -target=powerpc-rtems5 -enable-rtemsbsp=qemuprep-altivec-prefix=/home/joel/rtems-
work/bsps -enable-debug -enable-smp ld/collect2:0 error: no error message found!
powerpc/qemuprep-altivec: configure -target=powerpc-rtems5 -enable-rtemsbsp=qemuprep-
altivec-prefix=/home/joel/rtems-work/bsps -enable-debug -enable-networking -enable-
smp ld/collect2:0 error: no error message found! powerpc/qemuprep-altivec: configure
-target=powerpc-rtems5 -enable-rtemsbsp=qemuprep-altivec-prefix=/home/joel/rtems-
work/bsps -enable-smp ld/collect2:0 error: no error message found!
```

I checked and it looks like qemuprep-altivec is listed in the smp excludes section.

It is the only BSP with a - in the name that is in smp-excludes. Could it be that the matching fails in this case?

The other is pc586-sse which is SMP excluded also but using a different mechanism..

Author: Chris Johns 2018-10-19T00:34:17.000Z

This should be fixed in a recent rtems-tools. Please test and closed fixed if it is fixed.

Author: Chris Johns 2018-10-19T00:35:16.000Z

Why rtems-tester in the subject line?

Author: Gedare Bloom 2020-04-06T05:09:31.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.310 3887 - Do not report remotes in RSB build log if --mail is used

Id	3887
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-02-27T22:45:21.000Z
Updated	2020-04-06T03:34:02.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3887
Merges	0

Do not include the remote repos in a build repo is the --mail option is used. This avoids posting private repo configuration data for a user. This ticket is in response to this discussion ...

<https://lists.rtems.org/pipermail/devel/2020-February/057765.html>

If --mail is used report the remote repos as:

```
1 Remotes:
2 [ removed, contact me@there.here for details ]
```

and keep the remotes for builds that are not posted.

- [0001-sb-setbuilder-do-not-include-remotes-in-mailed-repor.patch](#)

Author: Gedare Bloom 2020-04-05T03:34:52.000Z

- **Attachment** 0001-sb-setbuilder-do-not-include-remotes-in-mailed-repor.patch added

Author: Trac Migrate 2020-04-06T03:34:02.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"4727c3e58f815252c01c77c9fa5055beccec4ec9/rtems-source-builder" 4727c3e/rtems-source-builder]:

```

1 sb/reports: add sanitize parameter enabled for --mail
2
3 Adds a --sanitize option to command line for reports.py
4 and also for the reports.report() interface from setbuilder.py
5 to remove the Remotes information from git.
6
7 Closes #3887.
```

4.2.1.311 3629 - Add RSB reporting section to the documentation.

Id	3629
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2018-11-30T00:39:06.000Z
Updated	2020-04-05T20:56:51.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3629
Merges	0

As reported in this email <https://lists.rtems.org/pipermail/users/2018-November/032802.html>:

“I could imagine that the GCC 6.3.0 of the TASTE VM isn’t suitable to build RTEMS toolchain with RTEMS source builder & kernel masters but I can’t find information which of all those config files of RSB I have to use for a successful build (targets: ARM, x86-64). This is pretty frustrating and very disappointing. There are so many variables which are not exactly documented, at least for the current version of RSB/kernel.”

there is no documented way to get a configuration report of an RSB configuration. The documentation needs to be updated to show how this can be done. For example:

```
1 $ ./source-builder/sb-reports 5/rtems-sparc
2 $ less 5-rtems-sparc.txt
```

Author: Trac Migrate 2020-04-05T20:56:51.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"cbdfde035ac9073e503bb2744ccb580f8f126a64/rtems-docs"cbdfde0/rtems-docs]:

```
1 user/rsb: describe how to create configuration reports
2
3 Closes #3629.
```

4.2.1.312 3803 - RSB ssl context error fetching qemu patches

Id	3803
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2019-10-28T22:04:27.000Z
Updated	2020-04-05T04:56:23.000Z
Milestone	5.1
Labels	priority::normal, resolution::invalid, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3803
Merges	0

It looks like there is a bug in the code that fetches source/patches. Jiri's site is a simple https:

```
1 making dir: /home/joel/rtems-work/rtems-source-builder/bare/patches
2 _url: https://gaisler.org/qemu/0001-LEON3-Add-emulation-of-AMBA-plug-play.patch ->
   ↪ /home/joel/rtems-work/rtems-source-builder/bare/patches/0001-LEON3-Add-
   ↪ emulation-of-AMBA-plug-play.patch
3 download: (full) https://gaisler.org/qemu/0001-LEON3-Add-emulation-of-AMBA-plug-
   ↪ play.patch -> patches/0001-LEON3-Add-emulation-of-AMBA-plug-play.patch
4 download: https://gaisler.org/qemu/0001-LEON3-Add-emulation-of-AMBA-plug-play.
   ↪ patch -> patches/0001-LEON3-Add-emulation-of-AMBA-plug-play.patch
5 download: no ssl context
6 download: https://gaisler.org/qemu/0001-LEON3-Add-emulation-of-AMBA-plug-play.
   ↪ patch: error: <urlopen error [Errno -2] Name or service not known>
7 error: downloading https://gaisler.org/qemu/0001-LEON3-Add-emulation-of-AMBA-plug-
   ↪ play.patch: all paths have failed, giving up
```

This is a build with the following script:

```
1 version=5
2 # variant="-couverture"
3
4 time ../source-builder/sb-set-builder \
5 --trace \
6 --log=l-qemu.txt \
7 --prefix=${HOME}/rtems-work/tools/${version} \
8 devel/qemu${variant}
```

Author: Chris Johns 2019-10-29T04:36:13.000Z

Are you sure it is a bug? I do not see the issue and have been downloading these files a lot over the last few days with the RSB.

Author: Joel Sherrill 2019-10-29T15:22:07.000Z

Replying to [Chris Johns](#):

Are you sure it is a bug? I do not see the issue and have been downloading these files a lot over the last few days with the RSB.

Jiri has a patch which moves the patches to another server. This resolves it for me. But I am on Centos 7 and have tried Python 2.7 and 3.6. The patches load in a browser but don't fetch. Not sure what's up. I don't see this on any other package or patch.

Author: Chris Johns 2019-10-29T18:28:21.000Z

Replying to [Joel Sherrill](#):

Jiri has a patch which moves the patches to another server. This resolves it for me.

But this does not find out if there is an issue. Lets not paper over the issue. Your debugging of this would help.

But I am on Centos 7 and have tried Python 2.7 and 3.6. The patches load in a browser but don't fetch. Not sure what's up. I don't see this on any other package or patch.

The code is ...

<https://git.rtems.org/rtems-source-builder/tree/source-builder/sb/download.py#n367>

Please add a raise here ...

<https://git.rtems.org/rtems-source-builder/tree/source-builder/sb/download.py#n390>

so the failure is printed. Even better if you could add code to better report the exception it would help long term. Python has great doco on exceptions and catching them.

Author: Trac Migrate 2019-10-30T11:23:58.000Z

The issue could have been caused by some temporary network problem to or in my server. How about if I attach the Leon3 Qemu patches to this ticket and modify RSB to fetch the patches from here ...? We used to do that for the sis/gdb patches and that worked OK.

Author: Joel Sherrill 2019-10-30T12:42:04.000Z

I tried this again yesterday and this morning and did not have issues. I am closing this as spurious network issues. We can always reopen it.

Author: Chris Johns 2019-10-30T20:50:27.000Z

Replying to [Jiri Gaisler](#):

The issue could have been caused by some temporary network problem to or in my server. How about if I attach the Leon3 Qemu patches to this ticket and modify RSB to fetch the patches from here ...? We used to do that for the sis/gdb patches and that worked OK.

That is for Jiri to comment on. No one else is having problems and I think it is something local to your setup.

Author: Gedare Bloom 2020-04-05T04:56:23.000Z

- **Resolution** set to ~"invalid"
- **Status** changed from *assigned* to *closed*

4.2.1.313 3804 - sb-get-sources: Error repo_mail referenced before assignment

Id	3804
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2019-10-30T12:31:47.000Z
Updated	2020-04-05T04:50:56.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3804
Merges	0

This occurred on CentOS 7 with Python 2.7.5 and 3.6.

```

1 $ ../source-builder/sb-get-sources bare/qemu
2 RTEMS Source Builder - Get Sources, 5 (5ecf0181b494)
3 Traceback (most recent call last):
4 File "../source-builder/sb/cmd-get-sources.py", line 26, in <module>
5 getsources.run()
6 File "/home/joel/rtems-work/rtems-source-builder/source-builder/sb/getsources.py",
  ↳ line 631, in run
7 opts = load_options(args, argopts)
8 File "/home/joel/rtems-work/rtems-source-builder/source-builder/sb/getsources.py",
  ↳ line 588, in load_options
9 opts = options(argv, argopts, defaults)
10 File "/home/joel/rtems-work/rtems-source-builder/source-builder/sb/getsources.py",
  ↳ line 167, in __init__
11 self.sb_git()
12 File "/home/joel/rtems-work/rtems-source-builder/source-builder/sb/getsources.py",
  ↳ line 276, in sb_git
13 if repo_mail is not None:
14 UnboundLocalError: local variable 'repo_mail' referenced before assignment

```

Author: Gedare Bloom 2020-04-05T04:50:56.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

This appears to have been fixed in [443b8ce3/rtems-source-builder]

4.2.1.314 3221 - RSB wiki page duplicates documentation

Id	3221
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2017-11-09T06:49:14.000Z
Updated	2020-04-04T18:18:05.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3221
Merges	0

Original author: sebastian.huber

The wiki page

<https://devel.rtems.org/wiki/Developer/Tools/RSB>

duplicates content with

<https://docs.rtems.org/branches/master/rsb/index.html>

Author: Gedare Bloom 2020-04-04T18:18:05.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

I replaced the wiki content with a link to the docs.

4.2.1.315 3903 - raspberrypi2 libbsd 5-freebsd-12 does not build

Id	3903
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2020-03-08T00:38:30.000Z
Updated	2020-04-04T17:49:17.000Z
Milestone	5.1
Labels	libbsd, priority::high, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3903
Merges	0

The build is failing with ...

```

1 /opt/work/rtems/5/lib/gcc/arm-rtems5/7.5.0/../../../../arm-rtems5/bin/ld: ./
  ↳ libbsd.a(rtems-kernel-nexus.c.18.o): in function `nexus_ofw_map_intr':
2 /opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/rtems-libbsd-
  ↳ v2b9172c9d42d056b6fb16d667091e2ee3ac64009-arm-rtems5-1/rtems-libbsd-
  ↳ 2b9172c9d42d056b6fb16d667091e2ee3ac64009/build/arm-rtems5-raspberrypi2-default/.
  ↳ ./../rtemsbsd/rtems/rtems-kernel-nexus.c:359: undefined reference to `bsp_fdt_
  ↳ map_intr'
3 collect2: error: ld returned 1 exit status

```

Is something on master that needs to be back ported to the 5-freebsd-12 branch?

- [0001-bsp-raspberry-Add-a-bsp_fdt_map_intr.patch](#)

Author: Chris Johns 2020-03-08T00:39:59.000Z

- **Description** changed

```

1 The build is failing with ...
2 {{{
3 /opt/work/rtems/5/lib/gcc/arm-rtems5/7.5.0/../../../../arm-rtems5/bin/
  ↳ ld: ./libbsd.a(rtems-kernel-nexus.c.18.o): in function `nexus_ofw_map_
  ↳ intr':
4 /opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/rtems-
  ↳ libbsd-v2b9172c9d42d056b6fb16d667091e2ee3ac64009-arm-rtems5-1/rtems-

```

(continues on next page)

(continued from previous page)

```

↳libbsd-2b9172c9d42d056b6fb16d667091e2ee3ac64009/build/arm-rtems5-
↳raspberrypi2-default/../../rtemsbsd/rtems/rtems-kernel-nexus.c:359:
↳undefined reference to `bsp_fdt_map_intr'
5 collect2: error: ld returned 1 exit status
6 }}}
7
8 - Is something on ``master`` that needs to be back ported to the ``5-
↳freebsd-12`` branch?
9 ? - - - -
↳
10
11 + Is something on `master` that needs to be back ported to the `5-
↳freebsd-12` branch?

```

Author: Trac Migrate 2020-03-08T09:34:03.000Z

The `bsp_fdt_map_intr()` must be provided by the BSP, e.g. `bsps/arm/beagle/start/bspstart.c`.

Author: Trac Migrate 2020-03-08T21:16:06.000Z

The same bug happens for libbsd master. Niteesh recently enabled FDT support for this BSP (following my suggestion) to be able to support the console for Pi2 and Pi3. It seems that I missed that libbsd doesn't build anymore when reviewing the patches. So the bug is not in libbsd but in RTEMS.

Author: Trac Migrate 2020-03-08T21:50:56.000Z

And of course - like everything else on this chip family - the interrupts can't be simple on RPi. There are at least two groups. Interrupts from the GPU and ones from the normal system.

See <https://git.kernel.org/pub/scm/linux/kernel/git/torvalds/linux.git/tree/Documentation/devicetree/bindings/interrupt-controller/brcm,bcm2835-armctrl-ic.txt?id=791d3ef2e11100449837dc0b6fe884e60ca3a484> and <https://git.kernel.org/pub/scm/linux/kernel/git/torvalds/linux.git/tree/Documentation/devicetree/bindings/interrupt-controller/brcm,bcm2836-l1-intc.txt?id=36464580e658019ac7be26a08c4679bee0454d2c>

The interrupts in the device tree look like this:

```

1 // GPIO - 49 to 52 in RTEMS
2 interrupts = <2 17>, <2 18>, <2 19>, <2 20>;
3 // USB - 9 in RTEMS
4 interrupts = <1 9>;
5 // Mailbox - most likely 65 in RTEMS
6 interrupts = <0 1>;

```

So I **assume** it should be a mapping like follows (in pseudo code):

```

1 #define MAGIC_OFFSET_FOR_SECOND_LEVEL 32
2
3 switch(first_number) {
4 case 0:
5 return second_number + BCM2835_IRQ_ID_BASIC_BASE_ID;
6 break;
7 case 1:
8 return second_number;
9 break;
10 case 2:
11 return second_number + MAGIC_OFFSET_FOR_SECOND_LEVEL;
12 break;
13 default:
14 /* Handle invalid interrupt */
15 break;
16 }

```

Author: Trac Migrate 2020-03-09T06:27:45.000Z

At least it looks like the API can handle this.

Author: Trac Migrate 2020-03-10T07:51:33.000Z

I created a patch that should work. But I didn't have the time to test it yet. I'll test it in the next few days.

Author: Trac Migrate 2020-03-10T07:52:10.000Z

- **Attachment** [0001-bsp-raspberry-Add-a-bsp_fdt_map_intr.patch](#) added

Untested patch for the problem.

Author: Trac Migrate 2020-04-04T10:55:45.000Z

Sorry for the long delay: The patch works and delivers the correct results (tested for the three cases GPIO0, USB and MBOX mentioned above). I'll send it to the mailing list.

Author: Trac Migrate 2020-04-04T17:49:17.000Z

- **Owner** set to Christian Mauderer <christian.mauderer@embedded-brains.de>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"bb8ae78d36d5a32f11404d194d47d8befdbe0664/rtems" bb8ae78/rtems]:

```
1 bsp/raspberry: Add a bsp_fdt_map_intr().
2
3 Fixes #3903
```

4.2.1.316 3927 - tcsh required to build sqlite – makes all BSP bsets fail

Id	3927
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2020-04-02T17:00:19.000Z
Updated	2020-04-03T00:22:16.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3927
Merges	0

I'm not sure what to do about this. If building sqlite is a requirement, then host setup instructions, sb-check, etc are impacted. But dtc is a required component for a few things and the RSB deals with it. It is also possible to say that sqlite should not be in the BSP bsets.

This is IMO a blocker at some level for the 5.1 release because it impacts building all bsets.

- make -j 8 sqlite3.h libsqlite3.la

```
tcsh /home/joel/rtems-cron-5/rtems-source-builder/rtems/build/sqlite-3.8.8.1-powerpc-
rtems5-1/build-xc/./sqlite-src-3080801/tool/mksqlite3h.tcl /home/joel/rtems-cron-
5/rtems-source-builder/rtems/build/sqlite-3.8.8.1-powerpc-rtems5-1/build-xc/./sqlite-
src-3080801 >sqlite3.h gcc -g -o mkkeywordhash -DSQLITE_OMIT_WAL=1 -
DSQLITE_ENABLE_COLUMN_METADATA=1 /home/joel/rtems-cron-5/rtems-
source-builder/rtems/build/sqlite-3.8.8.1-powerpc-rtems5-1/build-xc/./sqlite-src-
3080801/tool/mkkeywordhash.c gcc -g -o lemon /home/joel/rtems-cron-5/rtems-
source-builder/rtems/build/sqlite-3.8.8.1-powerpc-rtems5-1/build-xc/./sqlite-src-
3080801/tool/lemon.c /bin/sh: tcsh: command not found
```

Author: Joel Sherrill 2020-04-02T19:09:55.000Z

Advice from Jonathan Brandmeyer (<https://lists.rtems.org/pipermail/devel/2020-April/058905.html>).

We just copied the amalgamation's single .c and .h file into our repository and built it as a single object into our application. So the following recommendations come only from an amateur reading of the sources on current rtems-source-builder master.

3.8.8 is pretty old. I'd just jump straight to 3.30.1, the current release.

Instead of downloading the sqlite-src zip, download sqlite-amalgamation or sqlite-autoconf and use that as a base. I think the bset's configuration invocation is OK, except that I would set different CFLAGS as described in the next couple of paragraphs. See also <https://sqlite.org/amalgamation.html>

By default, the SQLite write-ahead-log relies on mmap to share some of its index structures between multiple processes. It looks like the current RTEMS bset disables the WAL entirely. Using the WAL gives much better performance than the rollback journal for write-intensive use cases. We used SQLite to reliably buffer up and stitch together segments of our field software update process, which fits the WAL very well. We set `-DSQLITE_MAX_MMAP_SIZE=0 -DSQLITE_DEFAULT_LOCKING_MODE=1` at compile time to avoid mmap's use since RTEMS has neither a VMM nor multiple address spaces. It is still up to the application to choose either the WAL or the rollback journal. See also <https://sqlite.org/wal.html#noshm>

We also added `-DSQLITE_ENABLE_MEMSYS5` to our build, and used it to give SQLite its own memory spaces to operate on distinct from the rest of our application. We explicitly provided it with its own MEMSYS5 heap, page cache, and lookaside pools. RTEMS just needs to add the correct compile-time option to support this functionality. It is still up to the application to configure and monitor those memory pools at runtime. See also <https://sqlite.org/malloc.html>

Author: Trac Migrate 2020-04-03T00:22:16.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"113c65cb56d04c59a0e145f85864fb431419dfa9/rtems-source-builder" 113c65c/rtems-source-builder]:

```
1 databases/sqlite: Update to 3.31.1
2
3 closes #3927.
```

4.2.1.317 3894 - Replace the device filesystem with a specialization of the IMFS

Id	3894
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-03-03T10:49:08.000Z
Updated	2020-04-02T09:25:15.000Z
Milestone	5.1
Labels	filesystem, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3894
Merges	0

Original author: sebastian.huber

New device drivers (e.g. Termios, I2C, SPI, libbsd) use IMFS generic nodes to hook into the filesystem. This does not work with the device filesystem enabled by the

```
1 #define CONFIGURE_USE_DEVFS_AS_BASE_FILESYSTEM
```

configuration option. Replace the device filesystem with a specialization of the IMFS.

Author: Chris Johns 2020-03-03T21:14:52.000Z

Original author: sebastian.huber

Will the changes include the examples and the devfs hello world example?

How does the size of this approach compare to the devfs approach?

Author: Trac Migrate 2020-03-04T05:48:53.000Z

Original author: sebastian.huber

Replying to [Chris Johns](#):

Will the changes include the examples and the devfs hello world example?

Yes, the aim is to fix this example so that it works with Termios based console drivers.

How does the size of this approach compare to the devfs approach?

I don't have numbers yet. I guess it will slightly increase.

You can further reduce the code size if you disable the support for the legacy IO drivers and use the new `IMFS_add_node()` instead.

I don't think this matters. If you want a minimal setup, then why do you want to use the POSIX open/read/write API to access devices? The POSIX functions pull in `errno` for example which pulls in the re-entrancy support which pulls in a hell of dependencies.

Author: Trac Migrate 2020-03-04T08:46:30.000Z

Original author: sebastian.huber

In `[changeset:"0b0cd93a40c92018a959219e8a2c42eadeae7a79/rtems" 0b0cd93/rtems]`:

```
1 imfs: Remove IMFS_NODE_FLAG_NAME_ALLOCATED
2
3 Remove IMFS_NODE_FLAG_NAME_ALLOCATED and instead replace the node
4 control in rename operations. This avoids a special case in the general
                                     (continues on next page)
```

(continued from previous page)

```

5 node destruction which pulled in free().
6
7 Update #3894.

```

Author: Trac Migrate 2020-03-04T08:46:34.000Z

Original author: sebastian.huber

In [changeset:"13b71f88f414f8d6a45c07916103765130a556ff/rtems" 13b71f8/rtems]:

```

1 imfs: Simplify IMFS_create_node()
2
3 Update #3894.

```

Author: Trac Migrate 2020-03-04T08:46:37.000Z

Original author: sebastian.huber

In [changeset:"fa44c3903a9da966dae024b7dcd824c8efd5cd34/rtems" fa44c39/rtems]:

```

1 imfs: Add IMFS_add_node()
2
3 Update #3894.

```

Author: Trac Migrate 2020-03-04T08:46:40.000Z

Original author: sebastian.huber

In [changeset:"7e3b5c0ced72ea6ffc79986d26bd9184c61888fa/rtems" 7e3b5c0/rtems]:

```

1 console: Use IMFS_add_node() for simple console
2
3 Change license to BSD-2-Clause according to file history.
4
5 Update #3053.
6 Update #3894.

```

Author: Trac Migrate 2020-03-04T08:46:44.000Z

Original author: sebastian.huber

In [changeset:"fa3005f6c1ddb99347acb70cbaecd155ed0356ed/rtems" fa3005f/rtems]:

```

1 console: Use IMFS_add_node() for simple task cons
2
3 Change license to BSD-2-Clause according to file history.
4
5 Update #3053.
6 Update #3894.

```

Author: Trac Migrate 2020-03-06T06:58:06.000Z

Original author: sebastian.huber

Replying to Sebastian Huber:

Replying to Chris Johns:

How do the size of this approach compare to the devfs approach?

I don't have numbers yet. I guess it will slightly increase.

I checked the code size change of the devfs04 test before and after the change to the IMFS specialization:

size pre/devfs04.exe text data bss dec hex filename 57328 1152 17312 75792 12810 pre/devfs04.exe

size post/devfs04.exe text data bss dec hex filename 58384 1152 16096 75632 12770 post/devfs04.exe

The code size increases by 1056 bytes on SPARCV8.

In case the support for legacy IO drivers is disabled via

```

1 #define CONFIGURE_IMFS_DISABLE_MKNOD_DEVICE
2 #define CONFIGURE_IMFS_DISABLE_MKNOD

```

the code size drops to: size devfs04.exe text data bss dec hex filename 56496 1152 16096 73744 12010 devfs04.exe

Using IMFS_add_node() gives you access to all file handlers and removes four layers of indirection, e.g.

read() -> device_read() -> rtems_deviceio_read() -> rtems_io_read()
-> _IO_Driver_address_table -> device handler

compared to

read() -> device handler.

Author: Trac Migrate 2020-03-09T18:00:01.000Z

Original author: sebastian.huber

In [changeset:"85c9145f09c3d221cec13922b5507818654b3c2e/rtems" 85c9145f/rtems]:

```
1 imfs: Use _IMFS_get_time()
2
3 Update #3894.
```

Author: Trac Migrate 2020-03-09T18:00:04.000Z

Original author: sebastian.huber

In [changeset:"83994913b6603c3a0dbb5ece4b3b5b47457ed99e/rtems" 83994913/rtems]:

```
1 imfs: Constify imfs_memfile_bytes_per_block
2
3 The CONFIGURE_IMFS_MEMFILE_BYTES_PER_BLOCK value is validated by
4 <rtems/confdefs/libio.h>. Changing this value during runtime could lead
5 to memory corruption.
6
7 Update #3894.
```

Author: Trac Migrate 2020-03-09T18:00:08.000Z

Original author: sebastian.huber

In [changeset:"277b9dd3f7b730e420870206839af6e98c5ce32b/rtems" 277b9dd/rtems]:

```
1 imfs: Remove unused handlers
2
3 Update #3894.
```

Author: Trac Migrate 2020-03-09T18:00:11.000Z

Original author: sebastian.huber

In [changeset:"103a371faa61eb938bf39bc38e1ac2b30cb18bd3/rtems" 103a371/rtems]:

```
1 imfs: Simplify code generation
2
3 Update #3894.
```

Author: Trac Migrate 2020-03-09T18:00:14.000Z

Original author: sebastian.huber

In [changeset:"0161b93d50d6915116c4ca9d1cad42ef89a4ad9e/rtems" 0161b93d/rtems]:


```
1 imfs: Replace devfs with an IMFS specialization
2
3 Add a simplified path evaluation function IMFS_eval_path_devfs() for a
4 device only IMFS configuration.
5
6 The code size can be further reduced by the application if it disables
7 the support for legacy IO drivers via:
8
9 #define CONFIGURE_IMFS_DISABLE_MKNOD
10 #define CONFIGURE_IMFS_DISABLE_MKNOD_DEVICE
11
12 Obsolete CONFIGURE_MAXIMUM_DEVICES. Remove BSP_MAXIMUM_DEVICES.
13
14 Update #3894.
15 Update #3898.
```

Author: Trac Migrate 2020-04-01T07:05:50.000Z

Original author: sebastian.huber

In [changeset:"7cec2590d2e872b306b7fdbed9b95616cb11ab36/rtems"7cec259/rtems]:

```
1 config: Remove CONFIGURE_FILESYSTEM_DEVFS
2
3 This filesystem no longer exists.
4
5 Remove unused RTEMS_FILESYSTEM_TYPE_DEVFS.
6
7 Update #3894.
```

Author: Trac Migrate 2020-04-02T09:25:15.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.318 2806 - Undocumented confdefs.h Configure Options

Id	2806
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2016-11-09T23:18:48.000Z
Updated	2020-04-02T08:27:13.000Z
Milestone	5.1
Labels	doc, priority::normal, resolution::fixed, tickettype::defect, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2806
Merges	0

The following constants in confdefs.h that are available for users to use are not defined in the Sphinx documentation.

- `CONFIGURE_APPLICATION_NEEDS_ATA_DRIVER` - internal and `CONFIGURE_APPLICATION_NEEDS_IDE_DRIVER` turns into this. Should we recognize both?
- `CONFIGURE_ATA_DRIVER_TASK_PRIORITY` - Document this. Looks like `CONFIGURE_APPLICATION_NEEDS_ATA_DRIVER` should replace `CONFIGURE_APPLICATION_NEEDS_IDE_DRIVER` based on this name. There is no “IDE task priority” configure option.
- `CONFIGURE_CBS_MAXIMUM_SERVERS` - document this.
- `CONFIGURE_EXECUTIVE_RAM_SIZE` - do we want users to define this anymore?
- `CONFIGURE_EXTRA_MPCI_RECEIVE_SERVER_STACK`
- `CONFIGURE_MAXIMUM_POSIX_KEY_VALUE_PAIRS` - document this.
- `CONFIGURE_MAXIMUM_PTYS` - document this. Used by telnetd. Is this the same on old and new TCP/IP stacks?
- `CONFIGURE_MAXIMUM_TASK_VARIABLES` - document for 4.11, not master
- `CONFIGURE_TIMER_FOR_SHARED_MEMORY_DRIVER` - internal only, do not document

Author: Trac Migrate 2017-01-19T12:08:02.000Z

For `CONFIGURE_MAXIMUM_PTYS` see [#2872](#).

Author: Trac Migrate 2017-01-26T07:16:00.000Z

- **Milestone** changed from %”4.11.1” to %”4.11.2”

Author: Trac Migrate 2017-02-15T13:44:44.000Z

- **Milestone** changed from %”4.11.2” to %”Indefinite”
- **Owner** set to Needs Funding

- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2020-03-31T10:53:12.000Z

- **Milestone** changed from %"Indefinite" to %"5.1"
- **Owner** set to sebastian.huber

Author: Trac Migrate 2020-04-01T07:03:30.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"4032c96da9bce3d9a8224ffb06c278206d626241/rtems-docs" 4032c96/rtems-docs]:

```
1 c-user: Document all configuration options
2
3 Close #2806.
```

4.2.1.319 3921 - QorIQ clock tick interval is off by one hardware clock tick

Id	3921
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-04-02T07:12:54.000Z
Updated	2020-04-02T07:14:04.000Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::4.11
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3921
Merges	0

Original author: sebastian.huber

The BCR initialization in qorIQ_clock_initialize() is off by one resulting in a wrong clock interval.

Author: Trac Migrate 2020-04-02T07:14:04.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"299a82f45ede8915508deac8710e096766cf31b4/rtems" 299a82f4/rtems]:

```

1 bsp/qorIQ: Fix off by one error in clock init
2
3 Close #3921.

```

4.2.1.320 3609 - Update Spike Version in RSB (RISC-V simulator)

Id	3609
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-11-15T23:15:54.000Z
Updated	2020-04-01T23:21:54.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3609
Merges	0

The spike version in the RSB does not run the test executables. Per Hesham, we should be using a newer version from git.

This is one of the two alternative simulators to run RISC-V executables. At the moment, neither Spike nor Qemu are usable for the RISC-V as present in the RSB.

Author: Trac Migrate 2018-11-16T09:43:42.000Z

RSB should already build an updated version of Spike as of this commit:[\[https://github.com/RTEMS/rtems-source-builder/commit/693e6b518d1710793096cdb11f806d9e511a8972\]](https://github.com/RTEMS/rtems-source-builder/commit/693e6b518d1710793096cdb11f806d9e511a8972)

Do you have any issues running RTEMS with it?

Author: Trac Migrate 2019-12-19T11:19:28.000Z

Is this issue fixed?

Author: Joel Sherrill 2019-12-19T14:05:20.000Z

The RSB appears to be updated based on this build list result from my build this week.

<https://lists.rtems.org/pipermail/build/2019-December/009507.html>

But... none of the RISC-V BSPs ran correctly on Spike so there is something wrong still:

<https://lists.rtems.org/pipermail/build/2019-December/009509.html>

Could be Spike but more easily the rtems-tools configuration for the execution of the simulator. Does it work for you Hesham?

Author: Joel Sherrill 2020-04-01T23:21:54.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

I updated the RSB to have a functional Spike with a git version. Results have been posted to build@

4.2.1.321 2683 - Configuration table's smp_enabled conditional on RTEMS_SMP

Id	2683
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2016-04-04T01:48:22.000Z
Updated	2020-03-31T10:59:35.000Z
Milestone	5.1
Labels	priority::normal, resolution::invalid, rtems::score, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2683
Merges	0

The rtems_configuration_table has:

```
1 #ifdef RTEMS_SMP
2 bool                smp_enabled;
3 #endif
```

I would like the smp_enabled variable to always be defined for 4.12 and always set to false when RTEMS_SMP is not defined. It is impossible to parse the configuration table with external auditing tools with out this field always being present unless you examine the DWARF debug info.

I wonder if User_multiprocessing_table is the same so this means the members of the configuration table must always be defined.

Chris

Author: Chris Johns 2016-04-04T01:48:55.000Z

- **Description** changed

```
1 The `rtems_configuration_table` has:
2
3 {{{
4 #ifdef RTEMS_SMP
```

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the configuration table. All that is being suggested to always have the elements in the table. There is no code.

Author: Trac Migrate 2017-02-15T14:25:52.000Z

- **Milestone** changed from %"4.12" to %"Indefinite"
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2020-03-31T10:59:06.000Z

- **Milestone** changed from %"Indefinite" to %"5.1"
- **Resolution** set to ~"invalid"
- **Status** changed from *assigned* to *closed*

The configuration table no longer exists. In particular, the SMP enabled indicator is no longer used. The `User_multiprocessing_table` no longer exists. In MPC1 configurations, there is now an `_MPC1_Configuration`.

4.2.1.322 3909 - rtems_waf with python2 needs to handle unicode strings with waf

Id	3909
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-03-17T10:18:53.000Z
Updated	2020-03-30T00:22:11.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::build, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3909
Merges	0

Waf will not support Python 2 unicode strings and there is a use case that appears now and again where the user report an error something like:

```
1 Cannot create ///h/
```

The waf ticket is <https://gitlab.com/ita1024/waf/-/issues/2283>.

Author: Chris Johns 2020-03-30T00:22:11.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

<https://git.rtems.org/rtems-libbsd/commit/?id=508836451b282e016d0310e8913e95fd2cd6b0f3>

4.2.1.323 3864 - rtems-tester does not work with gdb simulators

Id	3864
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2020-02-04T20:33:36.000Z
Updated	2020-03-29T23:04:57.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3864
Merges	0

It appears that something has broken with the rtems-tester on gdb simulators. On the latest run, I had to kill the tester by hand when it hung. On other times, it appears to abort with a lock issue.

Author: Joel Sherrill 2020-02-04T20:33:45.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Chris Johns 2020-03-27T04:53:21.000Z

I m looking into this and I cannot get psim-run to work with the latest tools and kernel. I get ...

```

1 $ rtems-test --rtems-bsp=psim-run `find . -name hello.exe`
2 RTEMS Testing - Tester, 5.0.not_released
3 Command Line: /opt/work/rtems/5/bin/rtems-test --rtems-bsp=psim-run ./
4 ↪powerpc-rtems5/c/psim/testsuites/samples/hello.exe
5 Host: FreeBSD hihi 12.1-RELEASE-p2 FreeBSD 12.1-RELEASE-p2 GENERIC amd64
6 Python: 3.7.6 (default, Jan 30 2020, 01:18:54) [Clang 6.0.1 (tags/
7 ↪RELEASE_601/final 335540)]
8 Host: FreeBSD-12.1-RELEASE-p2-amd64-64bit-ELF (FreeBSD hihi 12.1-
9 ↪RELEASE-p2 FreeBSD 12.1-RELEASE-p2 GENERIC amd64 amd64)
10 [1/1] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 W:0 | powerpc/psim: hello.exe
11 [1/1] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 W:0 | powerpc/psim: hello.exe
12 Result: invalid Time: 0:00:01.002526 hello.exe
13 => run: /opt/work/rtems/5/bin/powerpc-rtems5-run -f /opt/work/rtems/5/
14 ↪share/rtems/tester/rtems/testing/bsps/psim-device-tree ./powerpc-
15 ↪rtems5/c/psim/testsuites/samples/hello.exe
16 ] core_find_mapping() - access to unmaped address, attach a default map_
17 ↪to handle this - addr=0xfc131000 nr_bytes=0x4 processor=0x8e7a40_
18 ↪cia=0x15d8
19 ]

```

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```

14 Passed:      0
15 Failed:      0
16 User Input:  0
17 Expected Fail: 0
18 Indeterminate: 0
19 Benchmark:   0
20 Timeout:     0
21 Invalid:     1
22 Wrong Version: 0
23 Wrong Build:  0
24 Wrong Tools:  0
25 -----
26 Total:       1
27 Invalid:
28 hello.exe
29 Average test time: 0:00:01.286947
30 Testing time   : 0:00:01.286947

```

Has the psim device tree been updated?

Author: Chris Johns 2020-03-27T05:45:26.000Z

Crashing at ..

```

1 t = openpic_read(&OpenPIC->Global.Feature_Reporting0);
2 15d4:      39 2b 10 00      addi    r9,r11,4096
3 __asm__ __volatile__ ("lwbrx %0,0,%1; eieio" : "=r" (ret) :

```

Author: Chris Johns 2020-03-27T06:19:54.000Z

The rtems-tools master works. I will now check my tools build.

Author: Trac Migrate 2020-03-29T23:03:48.000Z

In [changeset:"753eb949b33d2feab6d27c98dfce13155d6e89d3/rtems-tools" 753eb94/rtems-tools]:

```

1 tester/gdb: Add lock timing and remote fetching registers.
2
3 - Add timing for the locks to aid performance profiling
4 - Remove fetching registers as the MI parser is slow on python2
5
6 Updates #3864

```

Author: Chris Johns 2020-03-29T23:04:57.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

4.2.1.324 3919 - RSB may not download source of pkgconfig checked packages

Id	3919
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-03-27T03:33:40.000Z
Updated	2020-03-27T03:40:50.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3919
Merges	0

There are config files with the following:

```

1 #
2 # The GLib build instructions. We use 2.x.x Release 1.
3 #
4 %ifn %{pkgconfig check glib-2.0}
5 %include %{_configdir}/glib-2-1.cfg
6 %endif

```

If the glib package is present the config file is not loaded and the source is not downloaded with the sb-get-source package. Change the config to:

```

1 #
2 # The GLib build instructions. We use 2.x.x Release 1.
3 #
4 %if !%{pkgconfig check glib-2.0} || %{defined _rsb_getting_source}
5 %include %{_configdir}/glib-2-1.cfg
6 %endif

```

Author: Trac Migrate 2020-03-27T03:40:50.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”9b7cdb760360347de2f3079d219a30e20848ed30/rtems-source-builder” 9b7cdb7/rtems-source-builder]:

```

1 bare: Fix pkgconfig checks and getting source.
2
3 - If the package was installed the check does not build the package.
4 This also meant getting the source failed.

```

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5
6 Closes [#3919](#)

4.2.1.325 3822 - Release created VERSION file in rtems-tools-*.tar.xz is wrong

Id	3822
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-11-15T23:48:50.000Z
Updated	2020-03-26T07:12:11.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3822
Merges	0

A build of the VERSION file in the release rtems-tools source package is reporting:

```
1 invalid version file: error: Invalid version file: ./VERSION: No option 'revision
  ↳ ' in section: 'version'
```

Author: Trac Migrate 2019-11-18T22:16:06.000Z

In [changeset:"5f7c53a7bd5845a54ba1ad4776ac92324ef2f184/rtems-source-builder" 5f7c53a/rtems-source-builder]:

```
1 sb: Align the version processing with rtems-tools.
2
3 - Use the same VERSION file format as rtems-tools so a common release
4 generation can be used.
5
6 - The version.py is almost the same as rtems-tools. There are some
7 minor differences, one is the RTEMS version is present in this
8 file while rtems-tool uses config/rtems-release.ini.
9
10 Updates #3822
```

Author: Chris Johns 2020-03-26T07:12:11.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.326 3914 - Spike has hard-coded path to DTC

Id	3914
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2020-03-21T18:32:08.000Z
Updated	2020-03-25T15:22:23.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3914
Merges	0

Spike has a fully qualified hard-coded path to `dtc` which when built with the RSB ends up being inside the temporary tree.

RTEMS Discussion: <https://lists.rtems.org/pipermail/devel/2020-March/058489.html>

Filed as Spike bug: <https://github.com/riscv/riscv-isa-sim/issues/427>

Author: Trac Migrate 2020-03-23T20:11:06.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"12e02adea0d54e80acc210221365062edeff4268/rtems-source-builder" 12e02ad/rtems-source-builder]:

```
1 Spike: Update to include fix for hard-coded path to dtc
2
3 Closes #3914.
```

Author: Trac Migrate 2020-03-25T15:22:23.000Z

In [changeset:"71af2d9ced948c99ebf1d9a850f0780f66fc1d1b/rtems-source-builder" 71af2d9/rtems-source-builder]:

```
1 spike: Update to use exec that searches along PATH.
2
3 Updates #3914.
```

4.2.1.327 3911 - Remove gdbarmsim

Id	3911
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2020-03-19T20:18:10.000Z
Updated	2020-03-20T18:38:42.000Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3911
Merges	0

Broken as a consequence of ARM rework that did not get done to this BSP. On top of that, there are at least 3 BSPs supported by Qemu which have more peripheral support with the Zynq being at the top of that list.

Author: Joel Sherrill 2020-03-20T14:36:41.000Z

In [changeset:"37e7cc5f4ce7ed46b5ea2de56d9066d121d851cb/rtems"
37e7cc5/rtems]: {{{
revision="37e7cc5f4ce7ed46b5ea2de56d9066d121d851cb" gdbarmsim: Remove
Closes #3611. }}}}

Author: Joel Sherrill 2020-03-20T14:37:13.000Z

In [changeset:"87e49d4cf93924b5c855fbf9429cff2cdb212f8f/rtems-docs"
87e49d4/rtems-docs]: {{{
revision="87e49d4cf93924b5c855fbf9429cff2cdb212f8f" gdbarmsim: Remove all
references to this deleted BSP family
Updates #3611. }}}}

Author: Joel Sherrill 2020-03-20T14:37:50.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Closing commit messages accidentally refer to #3611.

Author: Trac Migrate 2020-03-20T18:38:42.000Z

In [changeset:"9b9e0dd47fe78c04f49be7750cdb7c267821b26f/rtems-tools"
9b9e0dd/rtems-tools]:

```

1 gdbarmsim: Remove all variants
2
3 Updates #3911.

```

4.2.1.328 2998 - RTEMS User Manual Quick Start does not cover releases.

Id	2998
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2017-04-18T04:27:24.000Z
Updated	2020-03-12T21:23:43.000Z
Milestone	5.1
Labels	doc, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2998
Merges	0

The quick start documents using git and does not cover a release. This is confusing because the releases tools and the git master may not work.

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Trac Migrate 2020-03-12T21:23:40.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"f6720264ea8ebfdd3a6b7819650520a2d18e7c31/rtems-docs" f672026/rtems-docs]:

```

1 user: Update Quick Start Guide
2
3 - Add support for release source archives
4 - Add building the BSP using the RSB
5 - Add building packages using the RSB
6 - Add an application
7
8 Closes #2998

```

Author: Trac Migrate 2020-03-12T21:23:43.000Z

In [changeset:"5bd9f4dff4fe0453970891afbff856ba0a4dd260/rtems-docs" 5bd9f4d/rtems-docs]:

```

1 sphinx: Add a custom highlight colour
2
3 Update #2998

```

4.2.1.329 3849 - Fix PSIM memory map

Id	3849
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-01-02T11:53:27.000Z
Updated	2020-03-06T03:29:17.000Z
Milestone	5.1
Labels	arch:powerpc, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3849
Merges	0

Original author: sebastian.huber

[changeset:"b08278e8520d14e5b809bb07785b724c7a127e29/rtems" b08278e/rtems] leads to the following run-time error on PSIM:

```

1 BATs must not overlap; area 0x08000000..0x09000000 hits DBAT 0
2 BATs must not overlap; area 0x0c000000..0x0d000000 hits DBAT 0

```

The RAM overlaps with the PCI area:

```

1 /*
2 * Setup BATs and enable MMU
3 */
4 /* Memory */
5 setdbat(0, 0x0<<28, 0x0<<28, 1<<28, _PAGE_RW);
6 setibat(0, 0x0<<28, 0x0<<28, 1<<28, 0);
7 /* PCI */
8 setdbat(1, 0x8<<24, 0x8<<24, 1<<24, IO_PAGE);
9 setdbat(2, 0xc<<24, 0xc<<24, 1<<24, IO_PAGE);

```

Increasing the RAM size to 256MiB (0x10000000) on PSIM breaks also the shared memory support:

```

1 typedef struct {
2 /* 0x0c000000 - 0x0c007FFF - AMD 29F040 */
3 volatile uint8_t Flash[ 512 * 1024 ];
4
5 /* 0x0c080000 - 0x0c0FFFFFF - NVRAM/NVRAM */
6 volatile uint8_t nvram[ 512 * 1024 ];
7
8 /* 0x0c100000 - 0x0c100007 - NVRAM/RTC */

```

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```

9  psim_rtc_t RTC;
10
11 /* 0x0c100008 - 0x0c10000f - NVRAM/RTC */
12 uint8_t gap1[8];
13
14 /* 0x0c100010 - 0x0c10001b - System V IPC Semaphore */
15 psim_sysv_sem_t Semaphore;
16
17 /* 0x0c10001c - 0x0c10001f - NVRAM/RTC */
18 uint8_t gap2[4];
19
20 /* 0x0c100020 - 0x0c10005f - Ethernet */
21 volatile uint8_t Ethtap[ 64 ];
22
23 /* 0x0c100060 - 0x0c10ffff - NVRAM/RTC */
24 uint8_t gap3[65440];
25
26 /* 0x0c110000 - 0x0c12ffff - System V IPC Shared Memory */
27 uint8_t SharedMemory[ 128 * 1024 ];
28
29 /* 0x0c130000 - 0x0c170000 - OpenPIC IRQ Controller */
30 volatile uint8_t OpenPIC[ 256 * 1024 ];
31
32 } psim_registers_t;

```

Proposed solution is to adjust the memory map so that 256MiB of RAM are supported. Probably needs changes in rtems-tools.

Author: Joel Sherrill 2020-03-05T22:58:03.000Z

Original author: sebastian.huber

The code posted here misses the most important part – the simulator device tree (<https://git.rtems.org/rtems-tools/tree/tester/rtems/testing/bsps/psim-device-tree>). All of the device addresses start with 0x0c000000 which was OK when the RAM was smaller. But increasing the RAM to 256MB (0x10000000) resulted in the RAM overlapping the devices. The simplest option I see is to change the leading 0x0c... to 0xfc... in all device addresses and avoid the conflict.

As best I can tell, the set of changes is pretty small:

- Change rtems-tools/tester/testing/bsps/psim-device-tree to use 0xFC for all devices. This reconfigures the “hardware”
- Change rtems/bsps/powerpc/psim/linkcmds to change new base address of of all the devices which are at the symbol PSIM
- Delete rtems/bsps/powerpc/start/device-tree and update the BSP README to note where the device tree file is. Also update the README to note that you don’t need a modified gdb since the modifications have been in since the last century and no one knows the papyrus BSP anymore. I can’t even remember it.

- Change `rtems/bsps/start/bspstart.c` to fix 0x0c to 0xfc in the PCI setdbat calls.
Note: I don't remember how a base address is broken down to be passed in

I think that's it.

Author: Trac Migrate 2020-03-06T03:27:01.000Z

Original author: sebastian.huber

In [changeset:"097ea1ecc50a62e1ed9c1e032383d6f6f2fed581/rtems" 097ea1e/rtems]:

```
1 psim: Rework device tree so devices do not conflict with 256MB RAM
2
3 updates #3849.
```

Author: Trac Migrate 2020-03-06T03:29:17.000Z

Original author: sebastian.huber

- **Owner** set to Joel Sherrill <joel@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"3833c39f6cecae5bfc1249905795c50640599226/rtems-tools" 3833c39/rtems-tools]:

```
1 psim-device-tree: Rework so devices do not conflict with 256MB RAM
2
3 closes #3849.
```

4.2.1.330 3848 - Libdebugger test in libbsd should depend on libdebugger.a

Id	3848
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-12-21T04:21:55.000Z
Updated	2020-03-05T11:05:19.000Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3848
Merges	0

The test should be built based on this library being present. The PowerPC does not support libdebugger.

- [libbsd-library-check.diff](#)

Author: Chris Johns 2019-12-21T04:22:15.000Z

- **Summary** changed from *Libdebugger test in libbsd should depend on liubdebugger.a* to *Libdebugger test in libbsd should depend on libdebugger.a*

Author: Chris Johns 2020-03-04T11:53:19.000Z

- **Attachment** [libbsd-library-check.diff](#) added

Add libbsd library check support

Author: Chris Johns 2020-03-04T11:53:45.000Z

It looks like `debugger.h` is being installed when there is no support and this is tripping the test in `libbsd` so it thinks there is `libdebugger` support.

I attach a patch to add a library check however this fails because of link errors for a BSP that has the library.

It looks like the include install support in RTEMS needs to be fixed.

Author: Chris Johns 2020-03-05T10:16:03.000Z

- **Owner** set to `@chrisj`
- **Status** changed from *new* to *assigned*

Author: Chris Johns 2020-03-05T11:05:19.000Z

- **Resolution** set to `~"fixed"`
- **Status** changed from *assigned* to *closed*

4.2.1.331 3896 - RSB option `--source-only-download` does not work with releases

Id	3896
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-03-04T08:46:39.000Z
Updated	2020-03-04T09:37:42.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3896
Merges	0

The RSB option `--source-only-download` does not work for releases

Author: Trac Migrate 2020-03-04T09:37:42.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"3b0032d9e05549e304595ba3fd9ace81219a5f0e/rtems-source-builder" 3b0032d/rtems-source-builder]:

```
1 sb/options: Let --source-only-download download releases
2
3 - The release procedure uses the sb-set-sources command now.
4
5 Closes #3896
```

4.2.1.332 3530 - Fix issues raised by Coverity Scan for FTP server

Id	3530
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-09-26T08:37:12.000Z
Updated	2020-03-04T07:22:16.000Z
Milestone	5.1
Labels	library, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3530
Merges	0

Original author: sebastian.huber

Author: Trac Migrate 2018-10-04T08:50:06.000Z

Original author: sebastian.huber

In [changeset:"f004b2b8dc1fb78eb18b21ba6b50f6c712fd94f8/rtems" f004b2b8/rtems]:

```
1 Use rtems_task_exit()
2
3 Update #3530.
4 Update #3533.
```

Author: Trac Migrate 2018-10-08T05:16:22.000Z

Original author: sebastian.huber

In [changeset:"e761fb4dc01113567133d056889caac4c60d10dd/rtems" e761fb4/rtems]:

```
1 ftpd: Avoid NULL pointer checks before free()
2
3 They are superfluous and just bloat the code.
4
5 Update #3530.
```

Author: Trac Migrate 2018-10-08T05:16:33.000Z

Original author: sebastian.huber

In [changeset:"dcf42bb23848e031774324a4fe3d047eab1335fa/rtems"
dcf42bb2/rtems]:

```
1 ftpd: Remove FTPD_SessionInfo_t::pass member
2
3 There is no need to keep the password throughout the session.
4
5 Update #3530.
```

Author: Trac Migrate 2018-10-08T05:16:43.000Z

Original author: sebastian.huber

In [changeset:"51da629b2adad350765ba5218791285609f2d33f/rtems"
51da629/rtems]:

```
1 ftpd: Avoid malloc() and sscanf()
2
3 Move the user name to the session information.
4
5 Update #3530.
```

Author: Trac Migrate 2018-10-08T05:16:53.000Z

Original author: sebastian.huber

In [changeset:"479a28e08c6e619e19582b1f039ec70c0557c560/rtems"
479a28e0/rtems]:

```
1 ftpd: Avoid use of uninitialized memory
2
3 Update #3530.
```

Author: Trac Migrate 2018-10-08T05:17:04.000Z

Original author: sebastian.huber

In [changeset:"df97c4d25fc2476acd1cf26ed3e8fd33df424983/rtems" df97c4d2/rtems]:

```
1 ftpd: Avoid resource leak
2
3 Update #3530.
```

Author: Trac Migrate 2018-10-08T05:17:14.000Z

Original author: sebastian.huber

In [changeset:"be8de0ff46d3ad9e5facda7eb215fa1d545b1010/rtems" be8de0ff/rtems]:

```
1 ftpd: Fix insecure chroot() handling
2
3 Ensure that the rtems_libio_set_private_env() was successful before the
4 chroot().
5
6 Update #3530.
```

Author: Trac Migrate 2018-10-09T05:44:18.000Z

Original author: sebastian.huber

In [changeset:"2f784d72d35f2712e1c8053327caf6e240837f3c/rtems" 2f784d7/rtems]:

```
1 ftpd: Check return status of getsockname()
2
3 Update #3530.
```

Author: Trac Migrate 2018-10-09T05:44:32.000Z

Original author: sebastian.huber

In [changeset:"5bd75823bbf924ed7c306f88be910353d248e208/rtems" 5bd75823/rtems]:

```
1 ftpd: Remove superfluous temporary buffer
2
3 Update #3530.
```

Author: Trac Migrate 2018-10-10T11:59:13.000Z

Original author: sebastian.huber

In [changeset:"84a5921d33a5190779285017675e99e6b4aaf32f/rtems" 84a5921d/rtems]:

```

1 ftpd: Restructure chroot() handling.
2
3 Remove superfluous setting of errno = 0.
4
5 Update #3530.

```

Author: Trac Migrate 2018-10-12T12:16:56.000Z

Original author: sebastian.huber

In [changeset:"35c533f545c88ffea9ba619080997716f121d591/rtems-source-builder" 35c533f/rtems-source-builder]:

```

1 5: Update Newlib
2
3 Pick up POSIX header file changes and improved opendir() implementation.
4 This addresses time of check and time of use error conditions (TOCTOU).
5
6 Update #3530.
7 Update #3545.
8 Update #3546.
9 Update #3547.

```

Author: Trac Migrate 2018-11-02T10:58:42.000Z

Original author: sebastian.huber

In [changeset:"706802f87006bc015d93e1bad2e358c95dfce9a0/rtems" 706802f8/rtems]:

```

1 ftpd: Make send_dirline() more robust
2
3 Account for large file names.
4
5 Update #3530.

```

Author: Trac Migrate 2018-11-02T10:58:50.000Z

Original author: sebastian.huber

In [changeset:"8c3cd1e81bf29bb0a21ba3174a672fc85e162233/rtems" 8c3cd1e8/rtems]:

```

1 ftpd: Deal with too long command lines
2
3 Update #3530.

```

Author: Trac Migrate 2018-11-02T10:58:58.000Z

Original author: sebastian.huber

In [changeset:"fa0adf361826e6b79ae408e31ce13ddf82e275fe/rtems" fa0adf36/rtems]:

```

1 ftpd: Avoid TOCTOU problem
2
3 Assume that opendir() returns only non-NULL if we actually open a
4 directory.
5
6 Update #3530.
```

Author: Joel Sherrill 2018-11-02T14:16:10.000Z

Original author: sebastian.huber

Just an FYI that I have been trying to put the URL for the corresponding RTEMS tickets in the Coverity comment for the CID. Not sure it will ever be useful but best to be thorough in case we need it in the future.

Author: Trac Migrate 2019-12-19T08:20:33.000Z

Original author: sebastian.huber

An up to date Coverity run would be nice to see if all issues are fixed.

Author: Joel Sherrill 2019-12-19T14:49:38.000Z

Original author: sebastian.huber

I just submitted one. Hopefully it will pop out soon.

Author: Trac Migrate 2020-03-04T07:22:16.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

I reviewed all CIDs with respect to the FTP server. I think further improvements require some modelling in Coverity so remove the taint from data.

4.2.1.333 3893 - RSB staging changes have broken building a 3rd party package

Id	3893
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2020-03-01T09:31:14.000Z
Updated	2020-03-03T23:22:05.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3893
Merges	0

The staging changes let a fully staged vertical stack to build however building the packages for an installed tool chain and BSP is broken.

```
1 ../source-builder/sb-set-builder --log=bbb-pkg.txt --prefix=/build/rtems/install/
  ↪5 --host=arm-rtems5 --with-rtems-bsp=beagleboneblack 5/rtems-packages
```

Author: Trac Migrate 2020-03-03T02:01:26.000Z

In [changeset:"175ce0bcb0618c22d67735f4c83b0ab140a1f609/rtems-source-builder" 175ce0b/rtems-source-builder]:

```
1 sb/config: Expanded nested shell commands
2
3 Updates #3893
```

Author: Trac Migrate 2020-03-03T02:01:28.000Z

In [changeset:"4295d3d37779226158d729f21c7f7ca515f4f734/rtems-source-builder" 4295d3d/rtems-source-builder]:

```
1 sb/config: Add paths checks to %{path ...}
2
3 Updates #3893
```

Author: Trac Migrate 2020-03-03T02:01:31.000Z

In [changeset:"96d55ab432fabdacf5b5cb5881cee18235463f93/rtems-source-builder" 96d55ab/rtems-source-builder]:

```
1 sb/pkgconfig: Cache pkgconfig based on a file name not name
2
```

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```

3 - Caching on name falsely assumed checks across different config
4 instances in nested build sets as used in vertical stack
5 building was valid. This stopped a valid check for a prefix
6 seeing if a valid BSP config was present.

```

```

7
8 Updates #3893

```

Author: Trac Migrate 2020-03-03T02:01:33.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"abd98a2440e24f264681cbac0618a41a46ca2b56/rtems-source-builder" abd98a2/rtems-source-builder]:

```

1 rtems/bsps: Fix building 3rd party packages with various options
2
3 - Fix locating valid tools and BSP. If either is found in the
4 staging area use that else use the specific --with-* option
5 and if not present use the --prefix.
6
7 - Locate the tools by checking if the arch's C compiler is a valid
8 file. No other checks are made on the tools.
9
10 - Locate a BSB by checking for a valid pkgconfig file for the
11 BSP.
12
13 - Only filter flags if the BSP is in the staging area
14
15 Closes #3893

```

Author: Chris Johns 2020-03-03T10:39:27.000Z

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

The change is broken on Python 3. This has cause the m2003 snapshot to fail.

Author: Trac Migrate 2020-03-03T23:22:05.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

In [changeset:"9e49d20a308f3f7b41b522d147ca08b0f76e6b93/rtems-source-builder" 9e49d20/rtems-source-builder]:

```

1 sb/pkgconfig: Fix python2 issue with caching changes
2
3 Closes #3893

```

4.2.1.334 3881 - Add API functions to map a task priority to/from a POSIX thread priority

Id	3881
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-02-24T12:44:30.000Z
Updated	2020-03-03T06:16:14.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3881
Merges	0

Original author: sebastian.huber

Mapping task priorities to/from POSIX thread priorities is probably done in many applications. There seems to be no API to help doing this. Add the following API functions to map a task priority to/from a POSIX thread priority:

```

1 /**
2  * @brief Map a task priority to the corresponding POSIX thread priority.
3  *
4  * @param scheduler_id Identifier of the scheduler instance.
5  * @param priority The task priority to map.
6  * @param[out] posix_priority Pointer to a POSIX thread priority value.
7  *
8  * @retval RTEMS_SUCCESSFUL Successful operation.
9  * @retval RTEMS_INVALID_ADDRESS The @a posix_priority parameter is @c NULL.
10 * @retval RTEMS_INVALID_ID Invalid scheduler instance identifier.
11 * @retval RTEMS_INVALID_PRIORITY Invalid task priority.
12 */
13 rtems_status_code rtems_scheduler_map_to_posix_priority(
14 rtems_id          scheduler_id,
15 rtems_task_priority priority,
16 int              *posix_priority
17 );
18
19 /**
20 * @brief Map a POSIX thread priority to the corresponding task priority.
21 *
22 * @param scheduler_id Identifier of the scheduler instance.
23 * @param posix_priority The POSIX thread priority to map.
24 * @param[out] priority Pointer to a task priority value.
25 *

```

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```

26 * @retval RTEMS_SUCCESSFUL Successful operation.
27 * @retval RTEMS_INVALID_ADDRESS The @a priority parameter is @c NULL.
28 * @retval RTEMS_INVALID_ID Invalid scheduler instance identifier.
29 * @retval RTEMS_INVALID_PRIORITY Invalid POSIX thread priority.
30 */
31 rtems_status_code rtems_scheduler_map_from_posix_priority(
32 rtems_id          scheduler_id,
33 int               posix_priority,
34 rtems_task_priority *priority
35 );

```

Author: Trac Migrate 2020-03-03T06:14:42.000Z

Original author: sebastian.huber

In [changeset:"38736c69f84a07838dc18f7357ce5f14e555c860/rtems" 38736c6/rtems]:

```

1 rtems: Add rtems_scheduler_map_priority_to_posix()
2
3 Update #3881.

```

Author: Trac Migrate 2020-03-03T06:14:46.000Z

Original author: sebastian.huber

In [changeset:"180201094e4237679bd27df1e36b4f72d6840870/rtems" 18020109/rtems]:

```

1 rtems: Add rtems_scheduler_map_priority_from_posix()
2
3 Update #3881.

```

Author: Trac Migrate 2020-03-03T06:16:12.000Z

Original author: sebastian.huber

In [changeset:"e458fedc3800bd64712ed2bf7461f196104ca744/rtems-docs" e458fed/rtems-docs]:

```

1 c-user: rtems_scheduler_map_priority_to_posix()
2
3 Update #3881.

```

Author: Trac Migrate 2020-03-03T06:16:14.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”ac61465d2c0a8b7d68ff5577f25c9f173b6c8d49/rtems-docs”
ac61465/rtems-docs]:

```
1 c-user: rtems_scheduler_map_priority_from_posix()
2
3 Close #3881.
```

4.2.1.335 3812 - Released RSB has no source set for rtems-tools

Id	3812
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-11-03T20:55:07.000Z
Updated	2020-02-28T04:26:59.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3812
Merges	0

Building a release RSB fails in the rtems-tools build with:

```
1 script: 85: rtems_tools_source="rtems-tools-5.0.0-m1911"
2 script: 86: source_dir_rtems_tools=${rtems_tools_source}
3 source setup: rtems-tools-5.0.0-m1911-1: source rtems-tools -q -n ${rtems_tools_
  ↳source}
4 error: no source set: rtems-tools (source-rtems-tools)
```

Author: Chris Johns 2020-02-28T04:26:59.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

Fixed

4.2.1.336 3687 - Add architecture section support to libdl and support PowerPC's small data.

Id	3687
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-02-02T05:18:03.000Z
Updated	2020-02-26T03:52:04.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3687
Merges	0

Add support for architecture specific sections. Allow architecture back end support to handle sections that are specific to an architecture.

Add PowerPC sdata and sbss support. The PowerPC can support a **small data** 64K continuous system wide region of memory. Small data accesses are faster as the instruction is smaller however the variable is referenced as a signed 16bit offset from the register r13. This register is offset from the region's base address by 32K. The linker creates the .sdata and .sbss regions and sets the _SDA_BASE_ symbol which is loaded into r13. Any run-time loaded code with small data support needs space in the small data region therefore a BSP needs a way to define the space and the linker needs to allocate it. Provide a way for PowerPC BSPs to add extra memory to the small data region.

RTEMS supports the PowerPC EABI and uses sysv small data allocations. RTEMS uses the default variable size of 8 as the selector for a variable to be allocated in the small data region. The GCC user manual recommends all code is built with the same settings. Dynamically loaded code could be built with small data disabled and if enabled the default size is recommended.

Note, small data is system wide which means a default size of 8 allows only 8192 8 byte variables.

Provide an allocator to manage the available small data memory.

Author: Trac Migrate 2019-02-08T23:08:42.000Z

In [changeset:"6c9f0176a916cdbe88e04417e7aa1405d80c500f/rtems" 6c9f017/rtems]:

```

1 libdl: Add powerpc large memory and small data support.
2
3 - Add support for architecure sections that can be handled by the
4 architecture back end.
5
6 - Add trampoline/fixup support for PowerPC. This means the PowerPC
7 now supports large memory loading of applications.
8
9 - Add a bit allocator to manage small block based regions of memory.
10
```

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```

11 - Add small data (sdata/sbss) support for the PowerPC. The support
12 makes the linker allocated small data region of memory a global
13 resource available to libdl loaded object files.

```

```

14
15 Updates #3687

```

```

16 Updates #3685

```

Author: Trac Migrate 2019-02-11T10:43:14.000Z

In [changeset:"eec706e2bf41a9a166aa5e744d041171015214ea/rtems" eec706e2/rtems]:

```

1 bsp/powerpc: Fix small data area section
2
3 Fix small data area in case no fixed size is desired. Rename
4 bsp_section_set_sdata_sbss_size into bsp_section_small_data_area_size
5 since this symbol reflects the overall small data area size (including
6 space for libdl). Do not use bsp_section_sbss_size before definition in
7 linker command file. Add new symbols to <bsp/linker-symbols.h>.
8
9 Update #3687.

```

Author: Trac Migrate 2019-02-18T00:28:02.000Z

In [changeset:"3ecb207d05a585b34e88ac649be0e4f503fdb290/rtems" 3ecb207/rtems]:

```

1 libdl/rap: Add the section alloc call after section load was split
2
3 Updates #3687

```

Author: Trac Migrate 2019-03-06T19:34:29.000Z

In [changeset:"ec1dd51aae0cbce0560b3d72a6f86c938340f2fc/rtems" ec1dd51a/rtems]:

```

1 libdl: Add small data support to the remaining PowerPC BSPs.
2
3 Updates #3687

```

Author: Chris Johns 2020-02-26T03:52:04.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.337 3882 - Add POSIX user environment pointer to TCB

Id	3882
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2020-02-25T06:17:52.000Z
Updated	2020-02-25T11:33:17.000Z
Milestone	5.1
Labels	api::posix, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3882
Merges	0

Original author: sebastian.huber

The IO library uses a POSIX key to store an optional POSIX user environment pointer. This pulls in the POSIX keys support in every application configuration. Add a user environment pointer to the thread control block (TCB) instead. Applications which do not need the POSIX user environment will just get an overhead of one pointer per thread.

Author: Trac Migrate 2020-02-25T11:33:17.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"ba74ebde7461b28bf0261523d4e91e7c0e17b622/rtems" ba74ebde/rtems]:

```

1 libio: Add POSIX user environment pointer to TCB
2
3 The IO library used a POSIX key to store an optional POSIX user
4 environment pointer. This pulled in the POSIX keys support in every
5 application configuration. Add a user environment pointer to the thread
6 control block (TCB) instead. Applications which do not need the POSIX
7 user environment will just get an overhead of one pointer per thread.
8
9 Close #3882.
```

4.2.1.338 3868 - newlib links breaks mingw build

Id	3868
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2020-02-10T00:47:07.000Z
Updated	2020-02-12T03:48:59.000Z
Milestone	5.1
Labels	priority::high, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3868
Merges	0

The following patch in newlib adds links and Windows does not have symlinks and it is emulated as copy. This complicates a bsdtar extraction of source ...

<https://github.com/RTEMS/sourceware-mirror-newlib-cygwin/commit/cfc4955234828881145a20987c8a0a3cd373585c>

I tried the -E option that was added to the RSB to extract the tar file a second time, this has worked with other tar files with symlinks however it does not work. I have not investigated why.

We need Windows building to make a release.

Note, this is in the ``tools/rsb`` component however is not an RSB bug. I need input on what the RSB needs to do to fix this issue if that is the path we take.

Author: Chris Johns 2020-02-10T05:12:53.000Z

Hand testing with MSYS's tar (GNU tar) indicates links are handled with a suitable file copy.

It could be changing the RSB from bsdtar to tar may be a workable solution. The use of bsdtar seems to be before 2012 ...

<https://git.rtems.org/rtems-source-builder/commit/?id=8f84a6b3a0bc7cbce09605f39329d3832682bf63>

I remember there was a number of issues getting the source unpacked on Windows. I can build arm tools with tar.

Author: Trac Migrate 2020-02-12T03:48:59.000Z

- **Owner** set to Chris Johns <chrisj@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"22135c9a7612401ef531e663419afced0dab7622/rtems-source-builder" 22135c9/rtems-source-builder]:


```

1 windows: Use GNU tar to unpack source
2
3 - The bsdtar command does not handle symlinks cleanly, GNU tar does
4
5 Closes #3868

```

4.2.1.339 2408 - Linker set based initialization

Id	2408
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2015-09-02T12:52:05.000Z
Updated	2020-02-06T14:24:21.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::enhancement, version::4.10
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2408
Merges	0

Original author: sebastian.huber

Linker sets are used for example in Linux, FreeBSD (they are used in the RTEMS port of the FreeBSD network stack, e.g. libbsd), eCos and for global C++ constructors. They provide a space efficient and flexible means to initialize modules. A linker set consists of

- dedicated input sections for the linker (e.g. `.ctors` and `.ctors.*` in the case of global constructors),
- a begin marker (e.g. provided by `crtbegin.o`, and
- an end marker (e.g. provided by `ctrend.o`).

A module may place a certain data item into the dedicated input section. The linker will collect all such data items in this section and creates a begin and end marker. The initialization code can then use the begin and end markers to find all the collected data items (e.g. function pointers).

Lets look how this works using a simple example. For this we need three files `myset.h`,

```

1 #ifndef MYSET_H
2 #define MYSET_H
3
4 /* The linker set items */
5 typedef struct {
6 void (*func)(void);
7 } item;
8
9 /*
10 * Macro to create a linker set item. The first parameter is
11 * the designator of the item. It must be unique within the

```

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```

12 * module scope. The second parameter is the desired function.
13 */
14 #define MYSET_ITEM(i, f) \
15 __attribute__((used)) \
16 __attribute__((section(".rtemsroset.myset.content"))) \
17 static item i = { f }
18
19 #endif /* MYSET_H */

```

module.c

```

1 #include "myset.h"
2 #include <stdio.h>
3
4 /*
5 * Some global function that needs a module specific
6 * initialization done by f().
7 */
8 void
9 g(void)
10 {
11
12 printf("g()\n");
13 }
14
15 /* The module constructor */
16 static void
17 f(void)
18 {
19
20 printf("f()\n");
21 }
22
23 /*
24 * This registers the module constructor f()
25 * in the linker set "myset".
26 */
27 MYSET_ITEM(i, &f);

```

and init.c.

```

1 #include "myset.h"
2 #include <stddef.h>
3
4 /* Should be in a proper header file */
5 void g(void);
6
7 /* Define the start marker */
8 __attribute__((used))
9 __attribute__((section(".rtemsroset.myset.begin")))

```

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```

10 static volatile const item begin[0];
11
12 /* Define the end marker */
13 __attribute__((used))
14 __attribute__((section(".rtemsroset.myset.end")))
15 static volatile const item end[0];
16
17 int main(void)
18 {
19     size_t n = &end[0] - &begin[0];
20     size_t i;
21
22     /* Call all functions of the linker set */
23     for (i = 0; i < n; ++i) {
24         (*begin[i].func)();
25     }
26
27     /*
28      * This will pull in the module.c and register its item in the
29      * linker set "myset". So g() can rely on f() being called first.
30      */
31     g();
32
33     return (0);
34 }

```

In the linker command file of the GNU linker we need the following statement.

```

1 .rtemsroset : {
2 KEEP (*(SORT(.rtemsroset.*)))

```

The KEEP() ensures that a garbage collection by the linker will not discard the content of this section. This would be normally the case since the linker set items are not referenced directly. The SORT() directive sorts the input sections lexicographically. Please note the lexicographical order of the .begin, .content and .end section name parts in the previous example which ensures that the position of the begin and end markers are right. The interesting part of linker map file of the previous example may look like this.

```

1 .rtemsroset      0x0000000001001990      0x4 load address 0x00000000002268c
2 *(SORT(.rtemsroset.*))
3 .rtemsroset.myset.begin
4 0x0000000001001990      0x0 init.o
5 .rtemsroset.myset.content
6 0x0000000001001990      0x4 module.o
7 .rtemsroset.myset.end
8 0x0000000001001994      0x0 init.o

```

So what is the benefit of using linker sets to initialize modules? Currently in RTEMS all available managers (semaphore, message queue, barrier, etc.) are initialized since the initialization code doesn't know what is actually used by the application. With the linker set approach we need to initialize only those managers that are used by the application. In case an application uses

message queues, then it must call `rtems_message_queue_create()`. In the module implementing this function we can place a linker set item and register the message queue handler constructor. Otherwise, in case the application doesn't use message queues, then there will be no reference to the `rtems_message_queue_create()` function and the constructor is not registered, thus nothing of the message queue handler will be in the final executable.

Author: Trac Migrate 2015-09-03T13:39:08.000Z

Original author: sebastian.huber

See also [Developer/Projects/Open/SequencedInitialization].

Author: Trac Migrate 2015-10-28T13:08:32.000Z

Original author: sebastian.huber

See also <https://lists.rtems.org/pipermail/devel/2015-October/012701.html>.

Author: Trac Migrate 2015-12-08T12:53:24.000Z

Original author: sebastian.huber

In changeset b618d8cfc54f84d4ed03dc7b7fa510c872e6128a:

Add RTEMS linker sets Update #2408.

Author: Trac Migrate 2015-12-09T07:00:51.000Z

Original author: sebastian.huber

The POSIX API is disabled in 4.9 and 4.10. In 4.11 and 4.12 sizes are presented with POSIX enabled/disabled. The 4.12 without prefix is with the linker set based initialization. In 4.12 the Newlib internal locks are enabled.12. The PNOLS version is with POSIX enabled and the old initialization infrastructure.

Executable sizes for the SPARC/SIS ticker.exe.

= 4.9 =	80384	2532	2996	51432	56960
= 4.10 =	124384	1828	2384	51056	55268
= 4.11 =	100592	1616	7008	44120	52744
= 4.11/POSIX =	104608	1760	8528	45200	55488
= 4.12/PNOLS =	105296	1872	8512	45376	55760
= 4.12/POSIX =	101680	1808	6592	45336	53736
= 4.12 =	101472	1808	6528	44336	52672

The huge increase in the test size from 4.9 to 4.10 is mostly due to the introduction of the `pipe()` support which pulls in `sprintf()`.

The increase of the BSS section from 4.10 to 4.11 is due to the static initialization of the scheduler data structures (move from workspace to BSS).

Executable sizes for the SPARC/SIS minimum.exe.

Author: Trac Migrate 2015-12-10T07:33:58.000Z

Original author: sebastian.huber

In changeset 2858939a2ccb3cf1918dadd9cda1fd1d8ab5a9ef:

bsps: Delete superfluous bsp_pretasking_hook() Use the bsp_predriver_hook() instead. Update #2408.

Author: Trac Migrate 2015-12-11T07:57:40.000Z

Original author: sebastian.huber

[d0c39838146c6a186ddda3d95dac71c3fa90f11e/rtems]

Author: Trac Migrate 2016-01-26T17:04:55.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2016-02-03T09:29:51.000Z

Original author: sebastian.huber

In changeset 36b86d7eb5e51a62c0cee1906210b389c2ab96eb:

score: Create idle threads via linker set This allows a more fine grained rtems_initialize_data_structures(). Update #2408.

Author: Trac Migrate 2016-02-03T09:30:01.000Z

Original author: sebastian.huber

In changeset a853c8518d7b8ccf54491018857ed86548f3ea24:

Optional Initial Extensions initialization Update #2408.

Author: Trac Migrate 2016-02-03T09:30:14.000Z

Original author: sebastian.huber

In changeset 92bb345374ea3982b40b10e7d50ecfc1cb4d2ed3:

Optional Extensions initialization Update #2408.

Author: Trac Migrate 2016-02-03T09:30:24.000Z

Original author: sebastian.huber

In changeset 565672a257156f78295608afb05157d1c7da7000:

Optional Classic Tasks initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:30:35.000Z

Original author: sebastian.huber

In changeset 26335844f484c8cd061444cebba9480b62d165cb:

Optional Classic Timer initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:30:46.000Z

Original author: sebastian.huber

In changeset a7f36829c08d86f6a53b5aad83a21e38aa1454b5:

Optional Classic Signal initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:30:57.000Z

Original author: sebastian.huber

In changeset ae85b0663eb19db435476d268a10187633f2ba56:

Optional Classic Event initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:31:07.000Z

Original author: sebastian.huber

In changeset ed8b00e667fe179730beb8947b5afb6bcc234d7a:

Optional Classic Message Queue initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:31:18.000Z

Original author: sebastian.huber

In changeset cbaac1f7f4b3d78673abfde9bd6ed7e43dddf12c:

Optional Classic Semaphore initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:31:28.000Z

Original author: sebastian.huber

In changeset fd3cc36f61e5b92b2234ff5eff5250f0ce6447bb:

Optional Classic Partition initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:31:39.000Z

Original author: sebastian.huber

In changeset 365456cce3f3cf6da8a1bab9199e4bbd5f240dde:

Optional Classic Region initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:31:50.000Z

Original author: sebastian.huber

In changeset af12278f9b33d7d8dca96d3873472ef2382f3c8e:

Optional Classic Dual-Ported Memory initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:32:00.000Z

Original author: sebastian.huber

In changeset b377e3f6b70b5a5a09ac1dd77a450e4e5812cc42:

Optional Classic Rate Monotonic initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:32:11.000Z

Original author: sebastian.huber

In changeset 97d94ff3e96c86d2a23b26efe48a9386c16a915a:

Optional Classic Barrier initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:32:32.000Z

Original author: sebastian.huber

In changeset 04436ae7d83825300df85cab3953f9c0314fe72:

Optional POSIX Signals initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:32:42.000Z

Original author: sebastian.huber

In changeset ef1a985fc7591988ef956dd7b35f9533bace68a6:

Optional POSIX Threads initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:32:53.000Z

Original author: sebastian.huber

In changeset cef56750eb5ce8a2aa31ff4e3bc038bc656a0d96:

Optional POSIX Cleanup initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:33:04.000Z

Original author: sebastian.huber

In changeset f4fee4778e9ab8a61c00fdb34a6d2e49f2e0b2ce:

Optional POSIX Condition Variable initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:33:14.000Z

Original author: sebastian.huber

In changeset 9871f5dc60c622b58710f624f2ddb9328de16eb8:

Optional POSIX Mutex initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:33:25.000Z

Original author: sebastian.huber

In changeset 3015ed641a41059dec9abad1eb3872a006ee6324:

Optional POSIX Message Queue initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:33:36.000Z

Original author: sebastian.huber

In changeset 2189b3e963f7e43e9fc577ab4f24c952cef5b08e:

Optional POSIX Semaphore initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:33:46.000Z

Original author: sebastian.huber

In changeset 6c678557906cbbe73af1691e90e52911b2d00223:

Optional POSIX Timer initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:33:57.000Z

Original author: sebastian.huber

In changeset e4e7f149c0f4d167a40862fee90707d38ee1aaf6:

Optional POSIX Barrier initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:34:07.000Z

Original author: sebastian.huber

In changeset 76a8328945bdefafc255d9589d4dcc371e1a73ef:

Optional POSIX RWLock initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:34:18.000Z

Original author: sebastian.huber

In changeset 4eee8781458f271be78e6f92cf344f9dbd2b4c8e:

Optional POSIX Spinlock initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:34:29.000Z

Original author: sebastian.huber

In changeset 190169fee2f267f5e32813eb6fd3e9b51430effc:

Optional CPU Set Handler initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:34:39.000Z

Original author: sebastian.huber

In changeset 2605a48938b9b3466add326d8e94b9622ffad7ba:

Optional POSIX Keys initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:35:01.000Z

Original author: sebastian.huber

In changeset 3d36164fe5a366cf206ed3d2e8dc5b4d9e366c14:

Use linker set for root file system initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:35:22.000Z

Original author: sebastian.huber

In changeset ca4602e914d4ec00bf5db51e0830d702d5bc3f4e:

Use linker set for libio initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:35:33.000Z

Original author: sebastian.huber

In changeset 6bf44a581b35aba967034bc3e0348a4d1f36a048:

Use linker set for driver manager initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:35:44.000Z

Original author: sebastian.huber

In changeset 8ca372e9b47319a034a32250e037247e5b3c4c9e:

Use linker set for MPCPI initialization Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:35:55.000Z

Original author: sebastian.huber

In changeset 1ff8eca17a9f09bad3ab50c640547916808bf085:

Use linker set for Classic User Tasks init Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:36:06.000Z

Original author: sebastian.huber

In changeset 4210114032d8d079bddaa2333875c38e30c93490:

Use linker set for POSIX User Threads init Update [#2408](#).

Author: Trac Migrate 2016-02-03T09:38:47.000Z

Original author: sebastian.huber

Implementation is complete. Documentation is missing.

Author: Trac Migrate 2016-02-04T11:59:09.000Z

Original author: sebastian.huber

- **Status** changed from *assigned* to *accepted*

Author: Trac Migrate 2016-03-01T14:01:44.000Z

Original author: sebastian.huber

In changeset 1db95677debcd5497006d04b70634464a332a95b:

sptest/spsysinit01: Fix for RTEMS_DEBUG Update [#2408](#).

Author: Joel Sherrill 2016-03-11T00:13:28.000Z

Original author: sebastian.huber

Just checking. Is this ready to close or do you have additional plans?

Author: Trac Migrate 2016-03-14T07:16:20.000Z

Original author: sebastian.huber

Documentation is incomplete.

Author: Trac Migrate 2016-10-12T09:13:53.000Z

Original author: sebastian.huber

In changeset be573185e6d6ddafdd3612c7c2db04aa0f65a330:

score: More robust linker sets Update [#2408](#). Update [#2790](#).

Author: Joel Sherrill 2016-11-14T16:38:08.000Z

Original author: sebastian.huber

Should this ticket be closed now?

Author: Trac Migrate 2016-11-15T06:05:10.000Z

Original author: sebastian.huber

No, documentation is still incomplete. I am not satisfied with the GCC 7 support.

Author: Trac Migrate 2016-12-06T11:03:23.000Z

Original author: sebastian.huber

In changeset 4b579c5f5170e1fb6a0573729444c289643b7d84:

score: Simplify linker set API Resurrect
 RTEMS_LINKER_SET_BEGIN() and RTEMS_LINKER_SET_END().
 Add new macros RTEMS_LINKER_SET_ITEM_COUNT(),
 RTEMS_LINKER_SET_IS_EMPTY(), and RTEMS_LINKER_SET_FOREACH().
 Remove confusing RTEMS_LINKER_SET_ASSIGN_BEGIN()
 and RTEMS_LINKER_SET_ASSIGN_END(). Fix
 RTEMS_LINKER_SET_SIZE() to return the size in characters as
 specified by the documentation. Update [#2408](#). Update [#2790](#).

Author: Chris Johns 2016-12-07T04:10:42.000Z

Original author: sebastian.huber

Jeff has reported to me libbsd is broken.

Author: Trac Migrate 2016-12-12T07:09:08.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

Documentation complete.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Trac Migrate 2018-04-20T13:25:21.000Z

Original author: sebastian.huber

In [changeset:"6d21a3f230baefd0134ac7c09fb02b303386e243/rtems"
6d21a3f2/rtems]:

```
1 drvMgr: Remove bsp_driver_level_hook()
2
3 Use RTEMS_SYSINIT_ITEM() instead.
4
5 Update #2408.
```

Author: Trac Migrate 2018-04-20T13:25:54.000Z

Original author: sebastian.huber

In [changeset:"c4ccf26cb7808786e15312b41c3055b2da75203b/rtems"
c4ccf26c/rtems]:

```

1 bsp: Convert all bsp_predriver_hook()
2
3 Use RTEMS_SYSINIT_ITEM() instead.
4
5 Update #2408.

```

Author: Trac Migrate 2020-01-02T08:49:16.000Z

Original author: sebastian.huber

In [changeset:"453bb4b64225afd3040badb632f7b4adedc816cd/rtems" 453bb4b/rtems]:

```

1 rtems: Fix MPCIE initialization
2
3 Update #2408.

```

Author: Trac Migrate 2020-02-04T06:22:23.000Z

Original author: sebastian.huber

In [changeset:"813ada57f7efa3fb6a4a50616c4cd4abe45cec59/rtems-docs" 813ada5/rtems-docs]:

```

1 c-user: Update system initialization chapter
2
3 Update #2408.
4 Update #3838.

```

Author: Trac Migrate 2020-02-06T14:24:21.000Z

Original author: sebastian.huber

In [changeset:"a4b23d9ba8f4d927c7564da496a9bc4d897ca49f/rtems-docs" a4b23d9/rtems-docs]:

```

1 c-user: Document new linker set macros
2
3 Adjust copyright. Linker sets were introduced in 2015.
4
5 Update #2408.
6 Close #3865.

```

4.2.1.340 3857 - Use EAGAIN for POSIX mq wait in ISR error

Id	3857
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2020-01-24T13:59:24.000Z
Updated	2020-02-01T13:58:17.000Z
Milestone	5.1
Labels	api::posix, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3857
Merges	0

POSIX message queues which are about to block in an ISR currently return ENOMEM. This is a status not listed by POSIX. The better status is EAGAIN per https://pubs.opengroup.org/onlinepubs/9699919799/functions/mq_receive.html.

Author: Trac Migrate 2020-01-24T14:48:59.000Z

In [changeset:"565df3126357f05c46a689f12fbc1bd8fe60abf2/rtems-docs" 565df31/rtems-docs]:

```
1 posix-users/message_passing.rst: Add status for cannot block in ISR
2
3 Updates #3857.
```

Author: Trac Migrate 2020-01-24T14:49:35.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"e22554535796fc29a7ed7c5e2338128e324a621d/rtems" e225545/rtems]:

```
1 Use EAGAIN for POSIX mq wait in ISR error
2
3 Modify the status code returned by _CORE_message_queue_Submit() when it
4 detects a wait about to happen in an ISR (which would be deadly) to
5 return a status which translated to EAGAIN instead of ENOMEM.
6
7 This is only relevant for POSIX message queues, since Classic API_
8 ↪message
9 queues cannot block on send.
10
11 The motivation is to match the "most related" errno value returned from
12 mq\_send\(\) and mq\_timedsend\(\) according to POSIX, via Open Group:
```

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```

12 [EAGAIN]
13 The O_NONBLOCK flag is set in the message queue description
14 associated with mqdes, and the specified message queue is full.
15
16 or via the RTEMS POSIX users documentation
17
18 EAGAIN
19 The message queue is non-blocking, and there is no room on the queue
20 for another message as specified by the mq_maxmsg.
21
22 Neither of these matches the case of if avoided ISR wait perfectly, but
23 they seem to be the closest equivalent, unless it is desirable to keep a
24 new non-standard error for this case. It is presumed that this is not
25 desirable.
26
27 The previously returned ENOMEM error value is not documented in either
28 the Open Group or the RTEMS POSIX users documentation. A companion patch
29 corrects the documentation to include this error condition.
30
31 Based on the discussion in:
32 https://lists.rtems.org/pipermail/devel/2020-January/056891.html
33
34 closes #3857.
35
36 Message-Id: <CAF9ehCW5P12ZkZja4UPYTbdBFUyC1VKVL-tU7nyUtvK1Lz2Z3g@mail.
37 ↪gmail.com>

```

Author: Trac Migrate 2020-02-01T13:58:17.000Z

In [changeset:"b4387313f711c010f5c3f7ad6a0843ae80ed661c/rtems" b4387313/rtems]:

```

1 psxmsgq03: Adjust test case
2
3 Commit e22554535796fc29a7ed7c5e2338128e324a621d changed the error status
4 from ENOMEM to EAGAIN.
5
6 Update #3857.

```

4.2.1.341 3685 - Add large memory support to libdl

Id	3685
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-02-02T04:32:04.000Z
Updated	2020-01-02T11:54:11.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3685
Merges	0

Add large memory support to libdl. Some architectures use small relative offsets with smaller instructions for performance reasons. Object files loaded at addresses that are outside the relative range require trampoline calls that bridge the instruction in the object to the target symbol. The mechanism used depends on the archives.

Libdl requires generic support to parse the relocation record before the object file allocation to provide the memory to hold the trampoline calls.

The ARM and PowerPC architectures require trampolines. This is called veneers on ARM.

Author: Trac Migrate 2019-02-08T23:08:11.000Z

In [changeset:"b08278e8520d14e5b809bb07785b724c7a127e29/rtems" b08278e/rtems]:

```

1 powerpc/psim: Increase the psim memory to 256M
2
3 This allows test dl09 to run and test PowePC backend trampoline support.
4
5 Updates #3685
```

Author: Trac Migrate 2019-02-08T23:08:35.000Z

In [changeset:"d8c70ba65b13cd023b50b8aed5d91e455017cdd5/rtems" d8c70ba6/rtems]:

```

1 libdl: Add support for trampolines
2
3 - Trampolines or fixups for veneers provide long jump support
4 for instrucion sets that implement short relative address
5 branches. The linker provides trampolines when creating a
6 static image. This patch adds trampoline support to libdl
7 and the ARM architecture.
8
9 - The dl09 test requires enough memory so modules are outside
```

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```

10 the relative branch instruction ranges for the architecture.
11
12 Updates #3685

```

Author: Trac Migrate 2019-02-08T23:08:38.000Z

In [\[changeset:"194eb403c39f5ad346e63dc3352e29570857fd93/rtems"194eb403/rtems\]](#):

```

1 libdl: Add support for large memory programs
2
3 - Add trampolines to support relocs that are out of range on
4 support architectures.
5
6 - Support not loading separate text/data sections in an object
7 file if the symbol provided in the section is a duplicate.
8 A base image may have pulled in part of an object and another
9 part needs to be dynamically loaded.
10
11 - Refactor the unresolved handling to scale to hundreds of
12 unresolved symbols when loading large number of files.
13
14 Updates #3685

```

Author: Trac Migrate 2019-02-08T23:08:42.000Z

In [\[changeset:"6c9f0176a916cdbe88e04417e7aa1405d80c500f/rtems"6c9f017/rtems\]](#):

```

1 libdl: Add powerpc large memory and small data support.
2
3 - Add support for architecure sections that can be handled by the
4 architecture back end.
5
6 - Add trampoline/fixup support for PowerPC. This means the PowerPC
7 now supports large memory loading of applications.
8
9 - Add a bit allocator to manage small block based regions of memory.
10
11 - Add small data (sdata/sbss) support for the PowerPC. The support
12 makes the linker allocated small data region of memory a global
13 resource available to libdl loaded object files.
14
15 Updates #3687
16 Updates #3685

```

Author: Trac Migrate 2019-02-19T22:09:47.000Z

In [changeset:"22afb03411133bcf928aeb85233648a94f259b44/rtems" 22afb034/rtems]:

```

1 libdl/alloc: Add a locking interface to the allocator.
2
3 - Allow an allocator to lock the allocations. This is needed to
4 lock the heap allocator so the text and trampoline table are
5 as close together as possible to allow for the largest possible
6 object file size.
7
8 - Update the default heap allocator to lock the heap allocator.
9
10 - Update ELF loading to lock the allocator.
11
12 Updates #3685

```

Author: Trac Migrate 2019-12-13T08:33:02.000Z

[changeset:"b08278e8520d14e5b809bb07785b724c7a127e29/rtems" b08278e/rtems] leads to the following run-time error on PSIM:

```

1 BATs must not overlap; area 0x08000000..0x09000000 hits DBAT 0
2 BATs must not overlap; area 0x0c000000..0xd0000000 hits DBAT 0

```

The RAM overlaps with the PCI area:

```

1 /*
2 * Setup BATs and enable MMU
3 */
4 /* Memory */
5 setdbat(0, 0x0<<28, 0x0<<28, 1<<28, _PAGE_RW);
6 setibat(0, 0x0<<28, 0x0<<28, 1<<28, 0);
7 /* PCI */
8 setdbat(1, 0x8<<24, 0x8<<24, 1<<24, IO_PAGE);
9 setdbat(2, 0xc<<24, 0xc<<24, 1<<24, IO_PAGE);

```

Author: Trac Migrate 2019-12-13T08:41:49.000Z

Increasing the RAM size to 256MiB (0x10000000) on PSIM breaks also the shared memory support:

```

1 typedef struct {
2 /* 0x0c000000 - 0x0c007FFF - AMD 29F040 */
3 volatile uint8_t Flash[ 512 * 1024 ];
4
5 /* 0x0c080000 - 0x0c0FFFFF - NVRAM/NVRAM */
6 volatile uint8_t nvram[ 512 * 1024 ];
7
8 /* 0x0c100000 - 0x0c100007 - NVRAM/RTC */

```

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```

9 psim_rtc_t RTC;
10
11 /* 0x0c100008 - 0x0c10000F - NVRAM/RTC */
12 uint8_t gap1[8];
13
14 /* 0x0c100010 - 0x0c10001b - System V IPC Semaphore */
15 psim_sysv_sem_t Semaphore;
16
17 /* 0x0c10001c - 0x0c10001f - NVRAM/RTC */
18 uint8_t gap2[4];
19
20 /* 0x0c100020 - 0x0c10005F - Ethernet */
21 volatile uint8_t Ethtap[ 64 ];
22
23 /* 0x0c100060 - 0x0c10FFFF - NVRAM/RTC */
24 uint8_t gap3[65440];
25
26 /* 0x0c110000 - 0x0c12FFFF - System V IPC Shared Memory */
27 uint8_t SharedMemory[ 128 * 1024 ];
28
29 /* 0x0c130000 - 0x0c170000 - OpenPIC IRQ Controller */
30 volatile uint8_t OpenPIC[ 256 * 1024 ];
31
32 } psim_registers_t;

```

I suggest to revert this change.

Author: Chris Johns 2019-12-17T20:18:36.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

The large memory support in libdl task has finished. The psim issue should be moved to another ticket and the solution is to change the address map of the devices as suggested by Joel on the devel@ list.

Author: Trac Migrate 2020-01-02T11:54:11.000Z

See [#3849](#).

4.2.1.342 3339 - Several PowerPC linker commands do not support constructors/destructors with priority

Id	3339
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-03-14T18:45:58.000Z
Updated	2019-12-20T06:17:26.000Z
Milestone	5.1
Labels	arch:powerpc, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3339
Merges	0

This BSP shouldn't have trouble linking any of the tests so I was surprised at this failure.

```
gmake[6]: Entering directory `/data/home/joel/rtems-work/rtems-testing/rtems/build-powerpc-qemuppc-rtems/powerpc-rtems5/c/qemuppc/testsuites/sptests/spglobalcon02'
powerpc-rtems5-gcc -mcpu=603e -Dppc603e -O2 -g -fno-keep-inline-functions -mcpu=603e -Dppc603e -B/home/joel/rtems-work/rtems-testing/rtems/build-powerpc-qemuppc-rtems/powerpc-rtems5/c/qemuppc/lib/libbsp/powerpc/qemuppc -B/home/joel/rtems-work/rtems-testing/rtems/rtems/c/src/lib/libbsp/powerpc/qemuppc/startup/ -specs bsp_specs -qrtems -L.././././././qemuppc/lib -L/home/joel/rtems-work/rtems-testing/rtems/rtems/c/src/lib/libbsp/powerpc/shared/startup -Wl,-wrap=printf -Wl,-wrap=puts -Wl,-wrap=putchar -o spglobalcon02.exe init.o /data/home/joel/rtems-work/tools/5/bin/./lib/gcc/powerpc-rtems5/7.3.0/././././powerpc-rtems5/bin/ld:
section .ctors.64535 LMA [00000000ffc19780,00000000ffc19783] overlaps section .sdata LMA [00000000ffc19780,00000000ffc19807] collect2: error: ld returned 1
exit status gmake[6]: * [spglobalcon02.exe] Error 1 gmake[6]: Leaving directory
`/data/home/joel/rtems-work/rtems-testing/rtems/build-powerpc-qemuppc-rtems/powerpc-rtems5/c/qemuppc/testsuites/sptests/spglobalcon02' gmake[5]: *
[spglobalcon02] Error 2
```

Author: Trac Migrate 2018-03-16T14:12:46.000Z

In [changeset:"9860cc7bbab10fc9dbc0099168d43b8f5dad394d/rtems" 9860cc7/rtems]:

```
1 bsp/powerpc: Fix linker command files
2
3 Update #3339.
```

Author: Trac Migrate 2018-03-16T14:12:56.000Z

- **Owner** set to Sebastian Huber <sebastian.huber@embedded-brains.de>
- **Resolution** set to ~"fixed"

- **Status** changed from *new* to *closed*

In [changeset:"2e5cf7fb538364abcfbf7028ecc1e05d1f33fc48/rtems" 2e5cf7f/rtems]:

```
1 bsp/powerpc: Use shared linker command file
2
3 Close #3339.
```

Author: Trac Migrate 2018-03-17T10:08:19.000Z

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*
- **Summary** changed from *qemu PPC fails to link spglobalcon02* to *Several PowerPC linker commands do not support constructors/destructors with priority*

Author: Trac Migrate 2018-03-26T09:12:25.000Z

In [changeset:"1048a165e5062329b2ea7aaf1056807eb623d8e9/rtems" 1048a165/rtems]:

```
1 bsp/tqm8xx: Use shared linker command file
2
3 Update #3339.
```

Author: Trac Migrate 2018-04-25T18:36:17.000Z

In [changeset:"b3e5aa55223c3de233745845bb1c30826aa3b8d6/rtems" b3e5aa5/rtems]:

```
1 bsp/qemu PPC: Install linkcmds.base
2
3 Update #3339.
4 Close #3411.
```

Author: Trac Migrate 2019-05-07T08:32:35.000Z

In [changeset:"30d61a66d96c1aa3f0eda7d364c3900c80db3985/rtems" 30d61a6/rtems]:

```
1 bsp/powerpc: Fix constructors with priority
2
3 Update #3339.
```

Author: Trac Migrate 2019-12-20T06:17:26.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *reopened* to *closed*

In [changeset:”86abbb6e1e48d3acdf91ad2887f75dbdc42d85b7/rtems”
86abbb6e/rtems]:

```
1 bsp/bsp: Support constructors with priority
2
3 Close #3339.
```

4.2.1.343 3413 - examples-v2 both_hello and triple_period fail to build

Id	3413
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-04-25T21:47:30.000Z
Updated	2019-12-19T13:47:44.000Z
Milestone	5.1
Labels	arch:powerpc, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3413
Merges	0

examples-v2 doesn’t build for qemu. both_hello fails because of something going on with rtems-ld. Taking that out of the wscript results in getting further but fails with an undefined error for the same symbol.

```
/home/joel/rtems-work/tools/5/bin/powerpc-rtems5-gcc: hello-deep.o: In function
`__wrap_Thread_Life_action_handler':
/home/joel/rtems-work/tools/5/bin/powerpc-rtems5-gcc:
/home/joel/rtems-work/examples-v2/build/powerpc-rtems5-qemu/ hello-deep.c:1304:
undefined reference to `Thread_Life_action_handler' /home/joel/rtems-work/tools/5/bin/powerpc-rtems5-gcc: collect2: error: ld returned 1 exit status
```

error: linking: Linker error

Author: Chris Johns 2018-04-26T03:33:03.000Z

The score thread definition files have not been updated after a change in the score:

<https://git.rtems.org/rtems-tools/tree/linkers/rtems-score-thread.ini#n8>

which is referenced from:

https://git.rtems.org/examples-v2/tree/hello/both_hello/hello-deep.ini#n21

I am OK with a change to remove the definition being pushed.

Note, adding libdwrf support to rtems-tools would remove the need for these files.

Please remember rtems-tools repo changes require an RSB update to have the RSB pick up any changes.

Author: Trac Migrate 2019-12-19T09:09:45.000Z

In [changeset:"7045cc39b414cd38a864c22d6db220b9d140a4af/rtems-tools" 7045cc3/rtems-tools]:

```
1 linkers: Remove _Thread_Life_action_handler
2
3 This is a static function.
4
5 Update #3413.
```

Author: Trac Migrate 2019-12-19T09:14:21.000Z

In [changeset:"f48411816997ea646f24b759c85e1c81b3d4efcf/rtems-source-builder" f484118/rtems-source-builder]:

```
1 5: Update rtems-tools
2
3 Update #3413.
```

Author: Trac Migrate 2019-12-19T09:23:53.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

I was able to build the examples with these patches.

Author: Joel Sherrill 2019-12-19T13:47:44.000Z

It really would be better to have dynamic loading examples in rtems-examples rather than just bolting on some odd build stuff to an unrelated example. Neither both_hello or triple_period are intended to demonstrate dynamic loading and don't use it.

4.2.1.344 3665 - Add low level event recording infrastructure

Id	3665
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-12-19T07:01:36.000Z
Updated	2019-12-19T09:26:09.000Z
Milestone	5.1
Labels	library, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3665
Merges	0

Original author: sebastian.huber

Add low level event recording infrastructure for system and user defined events. The infrastructure should be able to record high frequency events such as

- SMP lock acquire/release,
- interrupt entry/exit,
- thread switches,
- UMA zone allocate/free,
- Ethernet packet input/output, etc.

It should allow post-mortem analysis in fatal error handlers, e.g. the last events should be in the record buffer, the newest event overwrites the oldest event. It should be possible to detect record buffer overflows for consumers that expect a continuous stream of events, e.g. to display the system state in real-time.

The framework should support high-end SMP machines (more than 1GHz processor frequency, more than four processors).

The existing capture engine tries to solve this problem, but its performance is not good enough for high-end production systems. The main issues are the variable-size buffers and the use of SMP locks for synchronization. To fix this, the API would change significantly.

Add a new API instead. The implementation should use per-processor data structures and no atomic read-modify-write operations. It is pretty much a per-processor ring buffer for record events.

Use the CPU counter to get the time of events. Combine it with periodic uptime events to synchronize it with CLOCK_REALTIME.

Here is an example of the

```

1 /**
2  * @brief Produces a record item.
3  *
4  * @param event The record event without a time stamp for the item.
5  * @param data The record data for the item.
```

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```
6 */
7 void rtems_record_produce( rtems_record_event event, rtems_record_data data );
```

function PowerPC machine code generated by GCC:

```
1 00000000 <rtems_record_produce>:
2 0: 7d 00 00 a6 mfmsr r8
3 4: 7c 00 01 46 wrteei 0
4 8: 7d 2e 82 a6 mfspr r9,526
5 c: 7d 50 42 a6 mfsprg r10,0
6 10: 81 4a 02 b4 lwz r10,692(r10)
7 14: 55 29 50 2a rlwinm r9,r9,10,0,21
8 18: 7d 23 1b 78 or r3,r9,r3
9 1c: 81 2a 00 00 lwz r9,0(r10)
10 20: 80 ca 00 08 lwz r6,8(r10)
11 24: 38 e9 00 01 addi r7,r9,1
12 28: 7d 29 30 38 and r9,r9,r6
13 2c: 55 29 18 38 rlwinm r9,r9,3,0,28
14 30: 7d 2a 4a 14 add r9,r10,r9
15 34: 90 69 00 48 stw r3,72(r9)
16 38: 90 89 00 4c stw r4,76(r9)
17 3c: 7c 20 04 ac lwsync
18 40: 90 ea 00 00 stw r7,0(r10)
19 44: 7d 00 01 06 wrtee r8
20 48: 4e 80 00 20 blr
```

Just 19 instructions, no branches, no stack frame, no atomic-read-modify-write, just a light weight synchronization to ensure that the consumer reads not half finished items.

Author: Trac Migrate 2019-01-29T12:57:00.000Z

Original author: sebastian.huber

In [changeset:"dca618404ee61c1be8a883ddb679889dbfea284b/rtems"
dca6184/rtems]:

```
1 Add low level event recording support
2
3 Add low level event recording infrastructure for system and user
4 defined events. The infrastructure is able to record high frequency
5 events such as
6
7 * SMP lock acquire/release,
8 * interrupt entry/exit,
9 * thread switches,
10 * UMA zone allocate/free, and
11 * Ethernet packet input/output, etc.
12
13 It allows post-mortem analysis in fatal error handlers, e.g. the last
```

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```

14 events are in the record buffer, the newest event overwrites the oldest
15 event. It is possible to detect record buffer overflows for consumers
16 that expect a continuous stream of events, e.g. to display the system
17 state in real-time.
18
19 The implementation supports high-end SMP machines (more than 1GHz
20 processor frequency, more than four processors).
21
22 Add a new API instead. The implementation uses per-processor data
23 structures and no atomic read-modify-write operations. It is uses
24 per-processor ring buffers to record the events.
25
26 The CPU counter is used to get the time of events. It is combined with
27 periodic uptime events to synchronize it with CLOCK_REALTIME.
28
29 The existing capture engine tries to solve this problem also, but its
30 performance is not good enough for high-end production systems. The
31 main issues are the variable-size buffers and the use of SMP locks for
32 synchronization. To fix this, the API would change significantly.
33
34 Update #3665.

```

Author: Trac Migrate 2019-01-30T10:32:21.000Z

Original author: sebastian.huber

In [\[changeset:"03cdd5eab83029ccb8347a99b94e48d780ff43f4/rtems"03cdd5ea/rtems\]](#):

```

1 record: Add enum value for each event
2
3 Update #3665.

```

Author: Trac Migrate 2019-02-01T08:52:23.000Z

Original author: sebastian.huber

In [\[changeset:"d06b1957cf04c6ea6289b9954b1a357c2d18f5e8/rtems-docs"d06b195/rtems-docs\]](#):

```

1 c-user: Add event recording configuration
2
3 Update #3665.

```

Author: Trac Migrate 2019-02-01T08:52:25.000Z

Original author: sebastian.huber

In [changeset:"21c4a44451dcc8a5b5935ad50e2d663c56098a39/rtems-docs" 21c4a44/rtems-docs]:

```
1 user: Add basic event recording documentation
2
3 Update #3665.
```

Author: Trac Migrate 2019-03-12T13:03:10.000Z

Original author: sebastian.huber

In [changeset:"d91951fbc0189253445b9d068670b8e60bf4fc41/rtems" d91951fb/rtems]:

```
1 record: Rename internal per-CPU events
2
3 Update #3665.
```

Author: Trac Migrate 2019-03-12T13:03:14.000Z

Original author: sebastian.huber

In [changeset:"ebb8c28ee9ca3ace660af3e763b393522160eddb/rtems" ebb8c28e/rtems]:

```
1 record: Add system call entry/exit events
2
3 This corresponds to the Linux syscall_entry_* and syscall_exit_* events.
4
5 Update #3665.
```

Author: Trac Migrate 2019-03-12T13:03:17.000Z

Original author: sebastian.huber

In [changeset:"01a5ced5e65d298cc3e515679af2760db97cb168/rtems" 01a5ced5/rtems]:

```
1 record: Add more system events
2
3 Update #3665.
```

Author: Trac Migrate 2019-08-20T20:51:11.000Z

Original author: sebastian.huber

In [changeset:"f9dce02507347a061e4ad221a5babf54265f91e0/rtems-tools" f9dce02/rtems-tools]:

```
1 record: New program
2
3 Update #3665.
```

Author: Trac Migrate 2019-08-27T06:47:34.000Z

Original author: sebastian.huber

In [changeset:"a8af7a14ec15a8e9e3ffed294f3e1bd0af60d549/rtems" a8af7a14/rtems]:

```
1 record: Fix thread names on 64-bit targets
2
3 Also fixes the thread names on signed char targets.
4
5 Update #3665.
```

Author: Trac Migrate 2019-08-27T06:47:37.000Z

Original author: sebastian.huber

In [changeset:"e273e7a9a85109bfe5bf5bc790f8c3b0b43f9c07/rtems" e273e7a9/rtems]:

```
1 record: Add data size to client
2
3 This is necessary to get the thread names properly on 32-bit and 64-bit
4 targets.
5
6 Update #3665.
```

Author: Trac Migrate 2019-08-27T06:52:40.000Z

Original author: sebastian.huber

In [changeset:"577f98659ac3209db5bf622847ed75c335dd3b59/rtems-tools" 577f986/rtems-tools]:

```
1 record: Move per-CPU variables to separate context
2
3 Update #3665.
```

Author: Trac Migrate 2019-08-27T06:52:42.000Z

Original author: sebastian.huber

In [changeset:"91d0d1d8488e2be2ab791c174bcee86422ef7ae2/rtems-tools" 91d0d1d/rtems-tools]:

```
1 record: Simplify packet context setup
2
3 Update #3665.
```

Author: Trac Migrate 2019-08-27T06:52:44.000Z

Original author: sebastian.huber

In [changeset:"e488c98b80b0f58cfd68e39c709e40fc1c407cc6/rtems-tools"
e488c98/rtems-tools]:

```
1 record: Move base context to client context
2
3 Update #3665.
```

Author: Trac Migrate 2019-08-27T06:52:46.000Z

Original author: sebastian.huber

In [changeset:"6c4b7702df584d472e9f214a351fc3d37ac36dc4/rtems-tools"
6c4b770/rtems-tools]:

```
1 record: Add CPU to idle thread names
2
3 Update #3665.
```

Author: Trac Migrate 2019-08-27T06:52:48.000Z

Original author: sebastian.huber

In [changeset:"3f45f38fc88abc9c6a662176cb46191145204a46/rtems-tools"
3f45f38/rtems-tools]:

```
1 record: Add data size to client
2
3 This is necessary to get the thread names properly on 32-bit and 64-bit
4 targets.
5
6 Update #3665.
```

Author: Trac Migrate 2019-08-27T06:52:50.000Z

Original author: sebastian.huber

In [changeset:"3c426562a53f58e714f096f5242b6ffb9f7cffd2/rtems-tools"
3c42656/rtems-tools]:

```

1 record: Support thread names on 32-bit targets
2
3 Update #3665.

```

Author: Trac Migrate 2019-08-28T14:02:53.000Z

Original author: sebastian.huber

In [changeset:"a2684c2b8d4cd1336052cc541cce31cc342bae2e/rtems" a2684c2b/rtems]:

```

1 record: Use BSS section instead of per-CPU data
2
3 The .rtemsrwset section is used for the per-CPU data. This section has
4 loadable content. Place the ring buffers in the BSS section to avoid
5 large executable image sizes.
6
7 Not using the per-CPU data makes it possible to initialize the record
8 support earlier.
9
10 Update #3665.

```

Author: Trac Migrate 2019-08-28T14:02:56.000Z

Original author: sebastian.huber

In [changeset:"3eb8d783692abe3d06f884730b70bb4bb2df6187/rtems" 3eb8d783/rtems]:

```

1 record: Introduce <rtems/recordserver.h>
2
3 This helps to get rid of the <rtems/rtems/tasks.h> dependency in
4 <rtems/record.h>.
5
6 Update #3665.

```

Author: Trac Migrate 2019-08-28T14:03:00.000Z

Original author: sebastian.huber

In [changeset:"956a2ef78d4fa5da162833f884fe72eba8f6184f/rtems" 956a2ef/rtems]:

```

1 record: Add variants for critical sections
2
3 Update #3665.

```

Author: Trac Migrate 2019-08-29T14:02:42.000Z

Original author: sebastian.huber

In [changeset:"58bd67bb358513e6523ee5f94d7df55332a3a7b2/rtems" 58bd67b/rtems]:

```
1 record: Add more system events
2
3 Reduce the system dependencies to allow tracing of very low level
4 functions, for example the interrupt disable/enable.
5
6 Introduce general purpose RTEMS_RECORD_CALLER and RTEMS_RECORD_LINE
7 events.
8
9 Update #3665.
```

Author: Trac Migrate 2019-08-29T14:05:45.000Z

Original author: sebastian.huber

In [changeset:"b1abc7d93a43383d1ce2796cd6dd7d7975ba846a/rtems-tools" b1abc7d/rtems-tools]:

```
1 record: Synchronize with RTEMS
2
3 Update #3665.
```

Author: Trac Migrate 2019-08-30T07:01:18.000Z

Original author: sebastian.huber

In [changeset:"d78082ce76f241314573aa340e6e0ce4601ad16d/rtems" d78082c/rtems]:

```
1 record: Introduce _Record_Drain()
2
3 This allows its use in crash dump procedures.
4
5 Update #3665.
```

Author: Trac Migrate 2019-08-30T07:01:22.000Z

Original author: sebastian.huber

In [changeset:"11f196d646958517c3fb1306b50323e4c3f59211/rtems" 11f196d6/rtems]:

```
1 record: Simplify configuration
2
3 Update #3665.
```

Author: Trac Migrate 2019-08-30T07:01:27.000Z

Original author: sebastian.huber

In [changeset:"1e18f645f36b4611e1962f1bf2b5d3ba5ae3d3db/rtems"
1e18f64/rtems]:

```
1 record: Initialize records earlier
2
3 The _Record_Initialize() function depends only initialized read-only
4 data. Call it as the first initialization step to allow tracing of the
5 complete system initialization.
6
7 Update #3665.
```

Author: Trac Migrate 2019-08-30T09:49:35.000Z

Original author: sebastian.huber

In [changeset:"8ace7eada4db33a6bda355979045e73c59084773/rtems"
8ace7ead/rtems]:

```
1 record: Add system events
2
3 Add system events to identify the target system. Add system events to
4 transfer blocks of memory and register sets.
5
6 Update #3665.
```

Author: Trac Migrate 2019-08-30T09:53:09.000Z

Original author: sebastian.huber

In [changeset:"67f76380eae576a135f6f4e96df09698c9d79e1e/rtems-tools"
67f7638/rtems-tools]:

```
1 record: Synchronize with RTEMS
2
3 Update #3665.
```

Author: Trac Migrate 2019-08-30T13:03:47.000Z

Original author: sebastian.huber

In [changeset:"1c72ad73ae2a2ee74a33edd1f8b6303444c76d01/rtems"
1c72ad7/rtems]:


```
1 record: Add system events
2
3 Add system events for memory allocation/free.
4
5 Update #3665.
```

Author: Trac Migrate 2019-08-30T17:50:29.000Z

Original author: sebastian.huber

In [changeset:"f12734196bdba6d735acfa214007b8e121d65135/rtems-tools"
f127341/rtems-tools]:

```
1 record: Synchronize with RTEMS
2
3 Update #3665.
```

Author: Trac Migrate 2019-09-02T05:56:58.000Z

Original author: sebastian.huber

In [changeset:"e41e9961df9d14a1eaa280cff12b2afc6cc4395f/rtems"
e41e9961/rtems]:

```
1 record: Add system events
2
3 Update #3665.
```

Author: Trac Migrate 2019-09-02T06:14:50.000Z

Original author: sebastian.huber

In [changeset:"7cb3a0fe7d0f829743585057f453654c2a96073f/rtems-tools"
7cb3a0f/rtems-tools]:

```
1 record: Synchronize with RTEMS
2
3 Update #3665.
```

Author: Trac Migrate 2019-09-03T13:03:20.000Z

Original author: sebastian.huber

In [changeset:"e0ac299e06c8ecd50c1c0de62a397ae0bb44bf22/rtems-tools"
e0ac299/rtems-tools]:

```
1 record: Convert to C++
2
3 Formatted with:
4
5 clang-format -style=Chromium -i trace/record/record-main-lttnng.cc
6
7 Update #3665.
```

Author: Trac Migrate 2019-09-03T13:03:22.000Z

Original author: sebastian.huber

In [changeset:"a124bdb8513615a4be3c9a2cd1e46ee3fd93c7d9/rtems-tools"
a124bdb/rtems-tools]:

```
1 record: Add Client base class
2
3 Update #3665.
```

Author: Trac Migrate 2019-09-04T11:48:07.000Z

Original author: sebastian.huber

In [changeset:"fb5b75a9f3e5551c358d7f948c74406c3d378589/rtems-tools"
fb5b75a/rtems-tools]:

```
1 record: Use exceptions
2
3 Update #3665.
```

Author: Trac Migrate 2019-09-04T11:48:10.000Z

Original author: sebastian.huber

In [changeset:"ce308fad89b859fbd9463bfc07cebd14d2ae4ffc/rtems-tools"
ce308fa/rtems-tools]:

```
1 record: Only create necessary stream files
2
3 Rename the files to stream_* so that they appear after the metadata
4 file. This makes it easier to open a new trace in Trace Compass.
5
6 Update #3665.
```

Author: Trac Migrate 2019-09-04T11:48:12.000Z

Original author: sebastian.huber

In [changeset:"ff942d52fd495263766aa3a5c0bf8d348c2b6a27/rtems-tools" ff942d5/rtems-tools]:

```
1 record: Simplify CopyThreadName()  
2  
3 Update #3665.
```

Author: Trac Migrate 2019-09-04T11:48:15.000Z

Original author: sebastian.huber

In [changeset:"0df7b2f39244965ebc220eef28578586904c38ad/rtems-tools" 0df7b2f/rtems-tools]:

```
1 record: Add support for interrupt handlers  
2  
3 Update #3665.
```

Author: Trac Migrate 2019-09-04T11:48:17.000Z

Original author: sebastian.huber

In [changeset:"58edee96f564c7267f8f70f8b219e2a944d7f595/rtems-tools" 58edee9/rtems-tools]:

```
1 record: Simplify content and packet size  
2  
3 Update #3665.
```

Author: Trac Migrate 2019-09-04T12:03:39.000Z

Original author: sebastian.huber

In [changeset:"876ace89bcaa76c1596f3cbe927a28da751948fa/rtems-tools" 876ace8/rtems-tools]:

```
1 record: Simplify command line options  
2  
3 Update #3665.
```

Author: Trac Migrate 2019-09-04T12:43:10.000Z

Original author: sebastian.huber

In [changeset:"71929ce0d63779eb7610e6323afbf2d15bba6781/rtems-tools" 71929ce/rtems-tools]:

```

1 record: Add limit option
2
3 Update #3665.

```

Author: Trac Migrate 2019-09-05T08:50:08.000Z

Original author: sebastian.huber

In [changeset:"0b12f00de9eae5c264c6df909737cb0a57fd268a/rtems-tools"
0b12f00/rtems-tools]:

```

1 record: Clean up metadata
2
3 Update #3665.

```

Author: Trac Migrate 2019-09-05T08:50:26.000Z

Original author: sebastian.huber

In [changeset:"07829ca0b4b3bee966b3aa9121da1dd37a8d8c4a/rtems-tools"
07829ca/rtems-tools]:

```

1 record: Use C++ header files and namespace std
2
3 Update #3665.

```

Author: Trac Migrate 2019-09-05T08:50:28.000Z

Original author: sebastian.huber

In [changeset:"f8f91d650706ad0c7baeb46b985b915876b158f4/rtems-tools"
f8f91d6/rtems-tools]:

```

1 record: Add generic record events
2
3 Update #3665.

```

Author: Trac Migrate 2019-09-09T05:05:59.000Z

Original author: sebastian.huber

In [changeset:"c331bdc7776b45f2f684565180df66ccbf5928f1/rtems"
c331bdc/rtems]:

```

1 record: Allow tracing of ISR disable/enable
2
3 Directly use the CPU port API in boot_card() to allow tracing of the

```

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```

4 higher level interrupt disable/enable routines, e.g.
5 _ISR_Local_disable() and _ISR_Local_enable(). Currently, there is no
6 configuration option to enable this. Below is a patch. It may be used
7 to investigate some nasty low level bugs in the system.
8
9 Update #3665.
10
11 diff --git a/cpukit/include/rtems/score/isrlevel.h b/cpukit/include/
12   ↪ rtems/score/isrlevel.h
13 index c42451d010..46d361ddc2 100644
14 --- a/cpukit/include/rtems/score/isrlevel.h
15 +++ b/cpukit/include/rtems/score/isrlevel.h
16 @@ -40,6 +40,10 @@ extern "C" {
17 */
18 typedef uint32_t    ISR_Level;
19
20 +uint32_t rtems_record_interrupt_disable( void );
21 +
22 +void rtems_record_interrupt_enable( uint32_t level );
23 +
24 /**
25 * @brief Disables interrupts on this processor.
26 *
27 @@ -56,8 +60,7 @@ typedef uint32_t    ISR_Level;
28 */
29 #define _ISR_Local_disable( _level ) \
30 do { \
31     _CPU_ISR_Disable( _level ); \
32     RTEMS_COMPILER_MEMORY_BARRIER(); \
33     _level = rtems_record_interrupt_disable(); \
34 } while (0)
35
36 /**
37 @@ -72,10 +75,7 @@ typedef uint32_t    ISR_Level;
38 * _ISR_Local_disable().
39 */
40 #define _ISR_Local_enable( _level ) \
41 do { \
42     RTEMS_COMPILER_MEMORY_BARRIER(); \
43     _CPU_ISR_Enable( _level ); \
44 } while (0)
45 + rtems_record_interrupt_enable( _level )
46
47 /**
48 * @brief Temporarily enables interrupts on this processor.
49 *
50 @@ -98,9 +98,8 @@ typedef uint32_t    ISR_Level;
51 */
52 #define _ISR_Local_flash( _level ) \
53 do { \

```

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```

52 - RTEMS_COMPILER_MEMORY_BARRIER(); \\
53 - _CPU_ISR_Flash( _level ); \\
54 - RTEMS_COMPILER_MEMORY_BARRIER(); \\
55 + rtems_record_interrupt_enable( _level ); \\
56 + _level = rtems_record_interrupt_disable(); \\
57 } while (0)
58
59 /

```

Author: Trac Migrate 2019-10-01T07:55:23.000Z

Original author: sebastian.huber

In [changeset:"c1eb5774863f8fd797f205ba2bf7972dc4312057/rtems" c1eb577/rtems]:

```

1 libtests/record01: Fix test failure
2
3 Update #3665.

```

Author: Trac Migrate 2019-10-02T04:38:31.000Z

Original author: sebastian.huber

In [changeset:"a314544a278f1533ae001f742d7fe24fcee253e6/rtems" a314544a/rtems]:

```

1 record: Add wrappers for malloc() functions
2
3 Introduce new library librtemsrecordwrap.a which contains wrappers for
4 operating system functions which produce entry/exit events.
5
6 The wrappers can be selected during link time via the GNU ld --wrap
7 option.
8
9 Update #3665.

```

Author: Trac Migrate 2019-12-19T09:26:09.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

All the basic functionality is integrated. New features/bugs should use new tickets.

4.2.1.345 3821 - Port NVMe support from FreeBSD to libbsd

Id	3821
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-11-13T11:56:46.000Z
Updated	2019-12-19T09:04:10.000Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::project, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3821
Merges	0

Original author: sebastian.huber

Author: Trac Migrate 2019-11-13T20:23:32.000Z

Original author: sebastian.huber

In [changeset:"950675442f1e30979798c8f7a3c8b696e6837c0b/rtems-libbsd" 9506754/rtems-libbsd]:

```

1 NVME(4): Import from FreeBSD
2
3 Update #3821.
```

Author: Trac Migrate 2019-12-19T09:04:10.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Some commits are missing in this ticket.

4.2.1.346 3409 - Strip down configure checks to the bare minimum

Id	3409
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-04-25T13:40:20.000Z
Updated	2019-12-19T08:14:40.000Z
Milestone	5.1
Labels	priority::normal, resolution::wontfix, rtems::build, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3409
Merges	0

Original author: sebastian.huber

There are a lot of configure checks which produce HAVE_* defines which are no longer used or superfluous since we demand a recent Newlib version anyway.

Author: Trac Migrate 2018-05-02T07:58:46.000Z

Original author: sebastian.huber

In [changeset:"b422aa3f4a8ecb27bc76c3c5f29d34e007564315/rtems" b422aa3f/rtems]:

```
1 tests: Remove configure feature checks
2
3 Update #3409.
```

Author: Trac Migrate 2018-10-23T14:02:37.000Z

Original author: sebastian.huber

In [changeset:"3cf12c9c6ac6579cfe07d9ddafeecf954d6940de/rtems" 3cf12c9/rtems]:

```
1 Remove strlcat(), strlcpy(), strsep(), readdir_r()
2
3 These functions are provided by Newlib since 2002.
4
5 Update #3409.
```

Author: Trac Migrate 2018-10-23T14:02:40.000Z

Original author: sebastian.huber

In [changeset:"87a9900f30d62bf7c2833ff3cf60976cebe2f9fc/rtems" 87a9900f/rtems]:


```

1 Remove isatty()
2
3 These functions are provided by Newlib since 2000.
4
5 Update #3409.

```

Author: Trac Migrate 2018-10-23T14:02:44.000Z

Original author: sebastian.huber

In [changeset:"658ec757cfbef89718b88c42748801c0b71b2a43/rtems" 658ec75/rtems]:

```

1 Remove __assert()
2
3 This function is provided by Newlib since 2000.
4
5 Update #3409.

```

Author: Trac Migrate 2018-10-23T14:02:47.000Z

Original author: sebastian.huber

In [changeset:"e161767e51ce8eff2a49114ebb980c18b7705978/rtems" e161767e/rtems]:

```

1 Remove ttyname()
2
3 This function is provided by Newlib since 2000.
4
5 Update #3409.

```

Author: Trac Migrate 2018-10-23T14:02:51.000Z

Original author: sebastian.huber

In [changeset:"79d145a7a22643c1e22d2795314272a6addc5733/rtems" 79d145a7/rtems]:

```

1 Remove optional getrusage() declaration
2
3 Declaration provided by Newlib since 2014.
4
5 Update #3409.

```

Author: Trac Migrate 2018-10-23T14:02:54.000Z

Original author: sebastian.huber

In [changeset:"f59edebf7e18953af6a37c717a53a7623bfd3887/rtems" f59edebf/rtems]:

```
1 Remove getcwd()
2
3 This function is provided by Newlib since 2000.
4
5 Update #3409.
```

Author: Trac Migrate 2018-10-23T14:02:58.000Z

Original author: sebastian.huber

In [changeset:"167654e7f0fcf9df5dcd3afef60658c4d63a43a5/rtems" 167654e/rtems]:

```
1 Remove checks for flockfile(), etc. declarations
2
3 Declarations provided by Newlib since 2002.
4
5 Update #3409.
```

Author: Trac Migrate 2018-10-23T14:03:02.000Z

Original author: sebastian.huber

In [changeset:"6da1bb046d10116e8dc9c14c309bb10effdd4c09/rtems" 6da1bb0/rtems]:

```
1 Remove superfluous configure checks
2
3 The results of these checks are unused, covered by other checks or check
4 obvious things.
5
6 Update #3409.
```

Author: Trac Migrate 2018-10-30T12:34:10.000Z

Original author: sebastian.huber

In [changeset:"7e2aabd7514e329b7be2e50eaf6f529c0a9c656c/rtems" 7e2aabd7/rtems]:

```
1 config: Fix check networking
2
3 This Autoconf macro used cache variables which are not longer present.
4
5 Update #3409.
```

Author: Trac Migrate 2019-12-19T08:14:40.000Z

Original author: sebastian.huber

- **Resolution** set to ~"wontfix"
- **Status** changed from *assigned* to *closed*

This will be fixed by the new build system, see [#3818](#).

4.2.1.347 3387 - Add subdir-objects to automake flags

Id	3387
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2018-04-10T05:59:45.000Z
Updated	2019-12-19T08:14:20.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, resolution::wontfix, rtems::build, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3387
Merges	0

This will be fixed by the new build system, see [#3818](#).

Author: Trac Migrate 2018-04-11T01:58:07.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"aa567bc1cc639fd4b791d0b57db0615a7b6ea648/rtems"aa567bc1/rtems]:

```

1 configure: Add subdir-objects to all automake flags.
2
3 This option silences warning with automake-1.16.1 allowing us to
4 upgrade to that version.
5
6 This change has been tested with automake-1.12.6 and automake-1.16.1.
7 It seems version 1.16.1 configures slower than 1.12.6 for the same
8 source and BSP. The newer versions is 6 second slower.
9
10 Close #3387.
```

Author: Trac Migrate 2018-04-11T05:21:30.000Z

I am not sure, but I think this breaks the BSP build. We have now for example in the build tree:

```

1 pwd
2 sparc-rtems5/c/erc32/lib/libbsp/sparc/erc32
3 make clean
4 test -z "" || rm -f
5 test -z "librtemsbsp.a" || rm -f librtemsbsp.a
6 rm -f *.o
7 rm -f ../../../../../../bsps/shared/*.o
8 rm -f ../../../../../../bsps/shared/cache/*.o
9 rm -f ../../../../../../bsps/shared/dev/display/*.o
10 rm -f ../../../../../../bsps/shared/dev/flash/*.o
11 rm -f ../../../../../../bsps/shared/dev/i2c/*.o
12 rm -f ../../../../../../bsps/shared/dev/ide/*.o
13 rm -f ../../../../../../bsps/shared/dev/rtc/*.o
14 rm -f ../../../../../../bsps/shared/dev/serial/*.o
15 rm -f ../../../../../../bsps/shared/irq/*.o
16 rm -f ../../../../../../bsps/shared/net/*.o
17 rm -f ../../../../../../bsps/shared/shmhdr/*.o
18 rm -f ../../../../../../bsps/shared/start/*.o
19 rm -f ../../shared/*.o
20 rm -f ../shared/*.o
21 rm -f ../shared/irq/*.o
22 rm -f ../shared/startup/*.o
23 rm -f clock/*.o
24 rm -f console/*.o
25 rm -f erc32sonic/*.o
26 rm -f gnatsupp/*.o
27 rm -f startup/*.o
28 rm -f timer/*.o

```

This assumes that the build and source tree have the same layout. However, this is not the case. For example:

```

1 pwd
2 sparc-rtems5/c/erc32/lib/libbsp/sparc/erc32
3 ls ../../../../../../
4 at697f bsp c erc32 gr712rc gr740 leon2 leon3 ut699 ut700

```

The critical issues is that the bsp directory is not BSP-specific.

Author: Trac Migrate 2018-04-11T05:21:40.000Z

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

Author: Chris Johns 2018-04-11T06:04:13.000Z

Replying to [Sebastian Huber](#):

I am not sure, but I think this breaks the BSP build.

I think it exposes a bug in the BSP Makefile support. Object files must stay contained under the BSP directory. Why does the cpukit not have a problem?

Author: Trac Migrate 2018-04-11T06:07:22.000Z

The problem is that we are right in between a move of the BSP sources from one tree to another.

Author: Chris Johns 2018-04-11T06:11:10.000Z

Will the move clean up the build tree and avoid this issue once the move is done? If so the only thing that is broken is building more than one BSP at a time. Is that a problem for you?

Author: Trac Migrate 2018-04-11T06:21:34.000Z

To finish the move will need a couple of weeks (more than four I guess). Do I have to use the BSP builder to build the BSPs?

Author: Chris Johns 2018-04-11T06:41:40.000Z

Replying to [Chris Johns](#):

Will the move clean up the build tree and avoid this issue once the move is done?

Nice, I am looking forward to this happening.

If so the only thing that is broken is building more than one BSP at a time. Is that a problem for you?

That is one way.

Just thought of a simpler solution that may work. What if you remove the `subdir-objects` option from the just the effected Makefile.am file(s)? This leave the parts of the build tree that are fixed ready and as you fix the broken parts the option can be added. It also lets automake-1.16.1 indicate we have a problem in the areas we have not fixed.

Does that work?

Author: Trac Migrate 2018-04-12T05:55:53.000Z

In [\[changeset:"4ff09d5b3f0c8c3f0b5cbb98eb5a6731cb7015d6/rtems" 4ff09d5b/rtems\]](#):

```

1 build: Remove subdir-objects from BSP configure.ac
2
3 The subdir-objects do not work currently due to BSP sources in bsps and
4 c and the existing build tree layout.
5
6 Update #3387.

```

Author: Trac Migrate 2018-04-12T09:14:04.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *reopened* to *assigned*

Author: Trac Migrate 2018-04-20T13:31:12.000Z

In [changeset:"234f0a2d184d6036de5fb01e4444d6808db1f6a0/rtems" 234f0a2d/rtems]:

```

1 build: Remove subdir-objects from Ada tests
2
3 Somehow it does not work. With this Automake option you get:
4
5 gmake[6]: Entering directory '/build/sparc-rtems5/c/erc32/testsuites/
6   ↪ ada/sptests'
7 Making all-am in sp01
8 gmake[7]: Entering directory '/build/sparc-rtems5/c/erc32/testsuites/
9   ↪ ada/sptests/sp01'
10 gmake[7]: *** No rule to make target 'init.o', needed by 'ada_sp01.exe'.
11   ↪ Stop.
12
13 Update #3387.

```

Author: Joel Sherrill 2019-12-12T23:13:52.000Z

Is this ticket “won’t fix” with the move to the new build system?

Author: Trac Migrate 2019-12-13T06:05:12.000Z

Yes, provided we move to the new build system.

Author: Chris Johns 2019-12-13T12:53:29.000Z

Replying to Sebastian Huber:

Yes, provided we move to the new build system.

I have been using the build system when doing some work week and I am now addicted.

I would like us to resolve the tickets we have to clear 5.0 then branch the repos. I can then prepare a release. This would release master for the merge the new build system.

Author: Trac Migrate 2019-12-19T08:14:20.000Z

Original author: sebastian.huber

- **Description** changed

```
1 - Adding this silences the warning in automake-1.16.1 so we can upgrade_
  ↳to that version.
2 + This will be fixed by the new build system, see #3818.
```

- **Resolution** set to ~"wontfix"
- **Status** changed from *assigned* to *closed*

4.2.1.348 3682 - Add BSP for Xilinx Zynq UltraScale+ MPSoC platform

Id	3682
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-01-23T08:30:54.000Z
Updated	2019-12-19T08:05:20.000Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::project, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3682
Merges	0

Original author: sebastian.huber

The goal is to add RTEMS support for the Cortex-A53 processors in AArch32 mode. There are currently no plans to support the Cortex-R5 or the AArch64 mode.

Author: Trac Migrate 2019-03-26T09:26:36.000Z

Original author: sebastian.huber

Hi,

I am interested in realizing this Project during GSoC 2019. Hoping to find interested mentors.

Best, Nils Hölscher

Author: Trac Migrate 2019-03-27T06:36:53.000Z

Original author: sebastian.huber

This project is probably too complex for a GSoC project. I am not available as a mentor.

Author: Trac Migrate 2019-04-11T05:29:34.000Z

Original author: sebastian.huber

In [changeset:"b0c420b92fe2ace36e02ba63a6a07fb77e277059/rtems" b0c420b9/rtems]:

```
1 bsp/zynq-uart: Remove zynq_uart_instances from header
2
3 This variable is BSP specific and should be removed from the driver
4 header file.
5
6 Update #3682.
```

Author: Trac Migrate 2019-04-11T05:29:38.000Z

Original author: sebastian.huber

In [changeset:"b0044305a635fcdb714e64f1d7c6ec85e5fc696e/rtems" b004430/rtems]:

```
1 bsp/zynq-uart: Move Zynq UART driver to shared directory
2
3 This driver will be shared with the xilinx-zynqmp BSP.
4
5 Update #3682.
```

Author: Trac Migrate 2019-04-11T05:29:42.000Z

Original author: sebastian.huber

In [changeset:"677d5167ba6605036032a32744a904947f6a0dc2/rtems" 677d5167/rtems]:

```
1 bsp/xilinx-zynqmp: Stub out Xilinx MPSoC BSP
2
3 Source files were copied from xilinx-zynq.
4
5 Update #3682.
```

Author: Trac Migrate 2019-04-11T05:29:46.000Z

Original author: sebastian.huber

In [changeset:"77f9a1be478b6b7fe265bb5db6c97fdf1670dc31/rtems" 77f9a1b/rtems]:

```
1 bsp/xilinx-zynqmp: Implement Ultra96 target
2
3 Modifications to get xilinx-zynqmp BSP working on an Ultra96 board.
4
5 Update #3682.
```

Author: Trac Migrate 2019-12-19T08:05:20.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"c9f5e20d3168703ea1940e1ae70926e541eafdf9/rtems-docs" c9f5e20/rtems-docs]:

```
1 user: Mention xilinx-zynqmp BSP
2
3 Close #3682.
```

4.2.1.349 3753 - Rename CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR

Id	3753
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2019-05-21T15:43:26.000Z
Updated	2019-12-19T07:57:47.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::config, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3753
Merges	0

CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR probably should not mention LIBIO as that is an internal component/organization aid which should not be visible to the user.

This ticket is to discuss renaming CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR to just CONFIGURE_MAXIMUM_FILE_DESCRIPTOR.

Perhaps deprecate now and obsolete in next major version. Include code to warn and map old name to new.

Thoughts?

Author: Trac Migrate 2019-05-22T05:45:29.000Z

I like `CONFIGURE_MAXIMUM_FILE_DESCRIPTOR`s better, however, do we really want to tinker with this configuration option which is used probably in hundreds of application configurations? It will probably force users to do something like this

```
1 #if RTEMS_VERSION >= 5
2 #define CONFIGURE_MAXIMUM_FILE_DESCRIPTOR X
3 #else
4 #define CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR X
5 #endif
```

Author: Chris Johns 2019-12-12T23:30:31.000Z

Sebastian, can this be worked on while you are playing with the config?

Author: Trac Migrate 2019-12-13T06:04:11.000Z

Yes, I work on this. I hope to finish the configuration related stuff by end of next week.

Author: Trac Migrate 2019-12-19T07:55:54.000Z

In [changeset:"3cec2dfbc427db269c1d2de5a235723886b516e2/rtems" 3cec2df/rtems]:

```
1 config: CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR
2
3 Rename CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR into
4 CONFIGURE_MAXIMUM_FILE_DESCRIPTOR.
5
6 Update #3753.
```

Author: Trac Migrate 2019-12-19T07:57:47.000Z

- **Owner** set to Sebastian Huber <sebastian.huber@embedded-brains.de>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"2c58b5f9960fae61b4f76b562b4dcf8ec1f1f37f/rtems-docs" 2c58b5f/rtems-docs]:

```
1 c-user: CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR
2
3 Rename CONFIGURE_LIBIO_MAXIMUM_FILE_DESCRIPTOR in
4 CONFIGURE_MAXIMUM_FILE_DESCRIPTOR.
5
6 Close #3753.
```

4.2.1.350 3735 - Remove CONFIGURE_HAS_OWN_MULTIPROCESSING_TABLE

Id	3735
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-04-09T06:59:10.000Z
Updated	2019-12-17T07:56:09.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::config, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3735
Merges	0

Original author: sebastian.huber

Remove the CONFIGURE_HAS_OWN_MULTIPROCESSING_TABLE configuration option. The RTEMS configuration should be done via explicit configuration options to allow more freedom for implementation changes. The use of this configuration option had a note in the documentation:

“This is a configuration parameter which is very unlikely to be used by an application. If you find yourself wanting to use it in an application, please reconsider and discuss this on the RTEMS Users mailing list.”

No discussion took place in a couple of years about this topic.

Author: Trac Migrate 2019-12-13T09:10:35.000Z

Original author: sebastian.huber

In [changeset:"d24b30156d00cfa997abb2453e86e0e8643f4df9/rtems"d24b301/rtems]:

```

1 config: CONFIGURE_HAS_OWN_MULTIPROCESSING_TABLE
2
3 Obsolete the CONFIGURE_HAS_OWN_MULTIPROCESSING_TABLE configuration
4 option.
5
6 Update #3735.
```

Author: Trac Migrate 2019-12-13T09:10:41.000Z

Original author: sebastian.huber

In [changeset:"24f8915a079446918abd4f7b2a8e1b8385930f85/rtems"24f8915/rtems]:

```
1 config: Add _MPCI_Configuration
2
3 Replace the user MPCI configuration table with a system provided
4 _MPCI_Configuration.
5
6 Update #3735.
```

Author: Trac Migrate 2019-12-13T09:10:44.000Z

Original author: sebastian.huber

In [changeset:"1d9f509e68a431d902cc655c85dc0601be4617b0/rtems" 1d9f509e/rtems]:

```
1 config: Statically allocate MP thread proxies
2
3 Update #3735.
```

Author: Trac Migrate 2019-12-13T09:10:48.000Z

Original author: sebastian.huber

In [changeset:"3fba9de2e6306946c7d79a571e787fb1d91faf38/rtems" 3fba9de2/rtems]:

```
1 config: Statically allocate MP object controls
2
3 Update #3735.
```

Author: Trac Migrate 2019-12-13T09:10:51.000Z

Original author: sebastian.huber

In [changeset:"782113767f3e60389423c169f5c337ec3fb50feb/rtems" 78211376/rtems]:

```
1 score: Remove _Workspace_Allocate_or_fatal_error()
2
3 This function is unused.
4
5 Update #3735.
```

Author: Trac Migrate 2019-12-13T13:07:10.000Z

Original author: sebastian.huber

In [changeset:"93d5323230e0613ecf868f7ab90154e746d0bce1/rtems-docs" 93d5323/rtems-docs]:

```

1 c-user: CONFIGURE_HAS_OWN_MULTIPROCESSING_TABLE
2
3 Obsolete the CONFIGURE_HAS_OWN_MULTIPROCESSING_TABLE configuration
4 option.
5
6 Update #3735.

```

Author: Trac Migrate 2019-12-17T07:56:09.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.351 3678 - Add RISC-V BSP with support for the grlib

Id	3678
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-01-22T10:18:53.000Z
Updated	2019-12-13T19:17:33.000Z
Milestone	5.1
Labels	arch:riscv, priority::normal, resolution::fixed, tickettype::project, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3678
Merges	0

Original author: sebastian.huber

Author: Trac Migrate 2019-01-22T11:53:23.000Z

Original author: sebastian.huber

In [changeset:"317209257661e50adb2abf4926c0dc812df0227d/rtems" 31720925/rtems]:

```

1 grlib: Move header files
2
3 Update #3678.

```

Author: Trac Migrate 2019-01-22T11:53:26.000Z

Original author: sebastian.huber

In [changeset:"7eb606d393306da25fd6e6aa7f8595ffb2e924fc/rtems" 7eb606d3/rtems]:

```
1 grlib: Move source files
2
3 Update #3678.
```

Author: Trac Migrate 2019-01-22T11:53:29.000Z

Original author: sebastian.huber

In [changeset:"411c29735d8a824704384d12acfca06dc78db232/rtems" 411c297/rtems]:

```
1 grlib: make apbuart driver independent of bsp
2
3 Update #3678.
```

Author: Trac Migrate 2019-01-22T11:53:33.000Z

Original author: sebastian.huber

In [changeset:"5981c8ca9fcb6aa4b4c614268c9348b910cdba36/rtems" 5981c8ca/rtems]:

```
1 grlib: use rtems_interrupt_handler_install()
2
3 Update #3678.
```

Author: Trac Migrate 2019-01-22T11:53:36.000Z

Original author: sebastian.huber

In [changeset:"9b2b389e8d6c9a871a3d5de882fc48b13bc9f1ac/rtems" 9b2b389/rtems]:

```
1 grlib: use cpu-independent routines for uncached access
2
3 Update #3678.
```

Author: Trac Migrate 2019-01-22T11:53:39.000Z

Original author: sebastian.huber

In [changeset:"c1dcd6af56b7174a1fabd421efbaf566cb997f8b/rtems" c1dcd6af/rtems]:

```
1 grlib: make memory coherency cpu-independent
2
3 Update #3678.
```

Author: Trac Migrate 2019-01-22T11:53:43.000Z

Original author: sebastian.huber

In [changeset:"d3d4e77c4218377d9aad9a3ac5d71461274bbc1e/rtems"d3d4e77/rtems]:

```
1 riscv: add griscv bsp
2
3 Update #3678.
```

Author: Trac Migrate 2019-01-22T11:59:09.000Z

Original author: sebastian.huber

In [changeset:"5973f92f79137576cea870b8504d5cb5582c6ce8/rtems-docs"5973f92/rtems-docs]:

```
1 user: Stub documentation for griscv BSP
2
3 Update #3678.
```

Author: Joel Sherrill 2019-12-13T15:22:53.000Z

Original author: sebastian.huber

Jiri.. can this ticket be closed or are there more activities pending? We are trying to close tickets to clear way for a release.

Thanks.

Author: Trac Migrate 2019-12-13T19:17:33.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

RISC-V grlib support merged and functioning well. Documentation somewhat lacking but ticket can be closed.

4.2.1.352 3213 - Move erc32, leon2, leon3, psim and jmr3904 to Tier 2

Id	3213
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2017-10-27T19:08:31.000Z
Updated	2019-12-13T15:46:49.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::enhancement, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3213
Merges	0

Based on these results on gdb simulators, please bump these to Tier 2.

- erc32 - <https://lists.rtems.org/pipermail/build/2017-October/000018.html>
- leon2 - <https://lists.rtems.org/pipermail/build/2017-October/000021.html>
- leon3 - <https://lists.rtems.org/pipermail/build/2017-October/000022.html>
- psim - <https://lists.rtems.org/pipermail/build/2017-October/000020.html>
- jmr3904 - <https://lists.rtems.org/pipermail/build/2017-October/000019.html>

As an aside, how will we distinguish the SPARC BSPs on sis, tsim or real hardware in the results?

Author: Joel Sherrill 2017-10-27T19:08:39.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Chris Johns 2017-10-28T07:03:51.000Z

Replying to [Joel Sherrill](#):

Based on these results on gdb simulators, please bump these to Tier 2.

Fantastic. Please do not find on the command line so the email results are more compact. :)

- erc32 - <https://lists.rtems.org/pipermail/build/2017-October/000018.html>
- leon2 - <https://lists.rtems.org/pipermail/build/2017-October/000021.html>

These do not look great. Looks like the script conversion to INI is broken. Are you able to please take a look?

- leon3 - <https://lists.rtems.org/pipermail/build/2017-October/000022.html>

- psim - <https://lists.rtems.org/pipermail/build/2017-October/000020.html>
- jmr3904 - <https://lists.rtems.org/pipermail/build/2017-October/000019.html>

As an aside, how will we distinguish the SPARC BSPs on sis, tsim or real hardware in the results?

The subject has the BSP name being tested. Would you like something in the body of the message?

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Joel Sherrill 2017-11-29T20:06:39.000Z

Where are the BSPs in each tier listed? If these are on the list, can this be closed?

Author: Chris Johns 2019-12-13T15:37:29.000Z

Here <https://git.rtems.org/rtems-tools/tree/config/rtems-bsps-tiers.ini#n19>

Author: Trac Migrate 2019-12-13T15:46:49.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"429b7472588525643d5f326fc6474ac1f9bae94c/rtems-tools" 429b747/rtems-tools]:

```
1 tiers: Move bsps from tier-3 to tier-2
2
3 Closes #3213
```

4.2.1.353 2420 - RSB %source file fails

Id	2420
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2015-09-14T12:45:40.000Z
Updated	2019-12-13T15:24:21.000Z
Milestone	5.1
Labels	priority::normal, resolution::wontfix, tickettype::defect, tool::rtems-source-builder, version::4.10, version::4.11, version::4.12, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2420
Merges	0

Original author: javi

It seems that the method for accessing an existing file repository both isn't covered much in the "manual", but it also fails to find it. Looking at the python code in download.py, it requires the format `file://` to identify the local file protocol, but then tries to access the actual file/directory using that the entire url (including `file://`).

This unfortunately fails and I'm not familiar enough with Python to correct this, although it appears that the `"file://"` part should be cut from the URL before calling the `"return path.isdir(url)"` in the `_file_downloader` function.

Author: Gedare Bloom 2015-09-14T14:03:57.000Z

Original author: javi

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*
- **Version** changed from ~"4.10" to ~"4.11"

Author: Gedare Bloom 2015-09-14T14:05:11.000Z

Original author: javi

Can you provide some more information about the failure? What are you trying to build, what is the config/bset being used, what %source directive fails? It may help to attach the log

Author: Trac Migrate 2015-09-15T08:45:29.000Z

Original author: javi

Well, at the moment I'm chasing a build bug in newlib and have modified a bset to allow me to change the source code locally. This was a perfect match for the "file" type available for %source, but as I stated it doesn't seem to work completely. (I

would also like to use it later to have git sources as submodules instead of cloned-on-demand.)

E.g., if I use a bset and modify the %source path for newlib from e.g. git:// to file:///full_path_to_this_dir/sources/git/newlib it doesn't find the directory. I added a printout of the url variable in _file_downloader in download.py, and the url contains the full given address as file:///full_path_to_this_dir/sources/git/newlib. This is then given to path.isdir and predictably fails.

Or am I missing something fundamental here?

Author: Chris Johns 2015-09-15T23:54:47.000Z

Original author: javi

There maybe a bug in the 'file' implementation, but I think what you are asking for is something new. I think you are asking to use the source tree as is in the location it is and to build using it where the 'file' expects a tar type file. Using the source in the specified location is currently not implemented. It is an interesting feature to add and I like it. It however would require I take a look to see what it effects and currently time is limited.

Author: Trac Migrate 2017-01-26T07:16:00.000Z

Original author: javi

- **Milestone** changed from %"4.11.1" to %"4.11.2"

Author: Chris Johns 2017-03-22T23:58:33.000Z

Original author: javi

- **Milestone** changed from %"4.11.2" to %"4.12"
- **Version** changed from ~"4.11" to ~"4.12"

This is a new feature and not suitable on a release branch.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

Original author: javi

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: javi

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Chris Johns 2019-12-13T15:24:21.000Z

Original author: javi

- **Resolution** set to ~"wontfix"
- **Status** changed from *assigned* to *closed*

I have no time to work on this.

4.2.1.354 3802 - RSB Build of Spike Fails on Second Time (bug in upstream spike)

Id	3802
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2019-10-17T13:25:35.000Z
Updated	2019-12-13T15:21:06.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3802
Merges	0

See <https://github.com/riscv/riscv-isa-sim/issues/348>

When this is fixed in the upstream, bump the hash in the RSB. Until then, use the attached patch.

- [0001-Correct-Permission-on-Installed-Headers-and-Binaries.patch](#)

Author: Joel Sherrill 2019-10-17T13:50:42.000Z

- **Attachment** [0001-Correct-Permission-on-Installed-Headers-and-Binaries.patch](#) added

Correct Permissions on Installed Programs and Headers

Author: Trac Migrate 2019-10-23T22:55:00.000Z

In [changeset:"68870df775b4763bebf94995a019d8e4c50e465e/rtems-source-builder" 68870df/rtems-source-builder]:

```
1 Update Spike RSB recipe and correct installed permissions
2
3 Updates #3802.
```

Author: Joel Sherrill 2019-10-24T12:32:44.000Z

Assigning to Hesham. Chris worked with me to simplify the recipe and apply my patch for this specific issue. Hesham concurrently had a patch to bump the spike version.

Hesham.. please use this ticket when you commit your changes on top of mine. Thanks.

Author: Trac Migrate 2019-10-24T14:34:58.000Z

OK to push this one? <https://lists.rtems.org/pipermail/devel/2019-October/055910.html>

Author: Chris Johns 2019-10-24T23:17:08.000Z

Replying to [Hesham Almatary](#):

OK to push this one? <https://lists.rtems.org/pipermail/devel/2019-October/055910.html>

What is all\$ as a target? Is this something specific to spike?

Author: Joel Sherrill 2019-12-13T15:21:06.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Spike builds now. The commit that fixed this probably missed including the ticket number.

4.2.1.355 3808 - Fix qemu-couverture-git RSB download file name

Id	3808
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Joel Sherrill
Created	2019-11-01T05:35:36.000Z
Updated	2019-12-13T15:13:47.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3808
Merges	0

The file name for qemu-couverture-git is a git hash. This results in a file in a release source directory that has no meaning ...

<https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m1911/sources/>

The release build output shows the issue ...

```

1 package: qemu-e9299f7591c8ecf3389922f4e7672b6bc5deae71-x86_64-pc-solaris2-1
2 download: https://github.com/AdaCore/qemu/archive/
  ↳ e9299f7591c8ecf3389922f4e7672b6bc5deae71.tar.gz -> sources/
  ↳ e9299f7591c8ecf3389922f4e7672b6bc5deae71.tar.gz
3 redirect: https://codeload.github.com/AdaCore/qemu/tar.gz/
  ↳ e9299f7591c8ecf3389922f4e7672b6bc5deae71
4 downloading: sources/e9299f7591c8ecf3389922f4e7672b6bc5deae71.tar.gz - 0.0 bytes

```

Author: Trac Migrate 2019-12-13T15:13:47.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"6c65fc237b9e579c3d3e78c5c77c90056cf6f629/rtems-source-builder" 6c65fc2/rtems-source-builder]:

```

1 qemu-couverture-git-1.cfg: Use an identifiable name for the download
  ↳ file.
2
3 closes #3808.

```

4.2.1.356 3204 - Exception in rtems-test

Id	3204
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2017-10-23T20:34:03.000Z
Updated	2019-12-13T14:27:38.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, resolution::worksforme, ticket-type::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3204
Merges	0

Note: No category for rtems-tools.

My first attempt to send run logs didn't go so well. This was a weird failure mode. It didn't exit but had to be killed by hand. I dropped off the options related to mailing the log and it still failed. This is on an up to date CentOS 7 (rtbf64c 7.4) as well as my 7.3 VM.

```

1 + /home/joel/rtems-work/rtems-tools//tester/rtems-test --rtems-tools=/home/joel/
  ↳ rtems-work/tools/4.12 --rtems-bsp=erc32 --log=run.log --mail --mail-
  ↳ from=joel@rtems.org --mail-to=build@lists.rtems.org ./sparc-rtems4.12/c/erc32/
  ↳ testsuites/samples/ticker/ticker.exe ./sparc-rtems4.12/c/erc32/testsuites/
  ↳ samples/minimum/minimum.exe ./sparc-rtems4.12/c/erc32/testsuites/samples/
  ↳ iostream/cxx_istream.exe ./sparc-rtems4.12/c/erc32/testsuites/samples/fileio/

```

(continues on next page)

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```

↪ fileio.exe ./sparc-rtems4.12/c/erc32/testsuites/samples/capture/capture.exe ./
↪ sparc-rtems4.12/c/erc32/testsuites/samples/nsecs/nsecs.exe ./sparc-rtems4.12/c/
↪ erc32/testsuites/samples/paranoia/paranoia.exe ./sparc-rtems4.12/c/erc32/
↪ testsuites/samples/cdtest/cdtest.exe ./sparc-rtems4.12/c/erc32/testsuites/
↪ samples/base_sp/base_sp.exe ./sparc-rtems4.12/c/erc32/testsuites/samples/
↪ unlimited/unlimited.exe ./sparc-rtems4.12/c/erc32/testsuites/samples/hello/
↪ hello.exe
2 RTEMS Testing - Tester, 4.12 (52513610668b)
3 [ 5/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: hello.exe
4 [ 6/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: cxx_iostream.exe
5 [ 3/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: cdtest.exe
6 [ 9/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: paranoia.exe
7 [ 7/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: minimum.exe
8 [ 1/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: base_sp.exe
9 [11/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: unlimited.exe
10 [ 4/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: fileio.exe
11 [10/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: ticker.exe
12 [ 2/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: capture.exe
13 [ 8/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: nsecs.exe
14 Traceback (most recent call last):
15 File "/home/joel/rtems-work/rtems-tools//tester/rtems-test", line 40, in <module>
16 rt.test.run()
17 File "/data/home/joel/rtems-work/rtems-tools/tester/rt/test.py", line 336, in run
18 job_trace)
19 File "/data/home/joel/rtems-work/rtems-tools/tester/rt/test.py", line 189, in _
↪ report_finished
20 reports.log(tst.executable, report_mode)
21 File "/data/home/joel/rtems-work/rtems-tools/tester/rt/report.py", line 193, in _
↪ log
22 exe = path.basename(self.results[name]['exe'])
23 File "/home/joel/rtems-work/rtems-tools/rtemstoolkit/path.py", line 77, in _
↪ basename
24 return shell(os.path.basename(path))
25 File "/usr/lib64/python2.7/posixpath.py", line 121, in basename
26 i = p.rfind('/') + 1
27 AttributeError: 'NoneType' object has no attribute 'rfind'

```

Author: Joel Sherrill 2017-10-23T20:34:13.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-10-24T11:23:33.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"bf58911519afb7ce2117dedadf3d76da436b2361/rtems-tools"]

bf58911/rtems-tools]:

```

1 tester: Refactor to use INI format files for BSP configurations.
2
3 - Add support for user configurations files with the --user-config.
4 - Add support for a $HOME/.rtemstesterrc for a user configuration.
5
6 Closes #3204.
```

Author: Joel Sherrill 2017-10-24T14:13:19.000Z

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

Seems to be worse now but at least the output isn't an exception trace. Updated, cleaned, and reinstalled. Both installed and from the source tree fail with this:

```
[joel@rtbf64c b-erc32]$ /home/joel/rtems-work/tools/4.12/bin/rtems-test Incorrect RTEMS Tools installation
[joel@rtbf64c b-erc32]$ ../rtems-tools/tester/rtems-test Incorrect RTEMS Tools installation
```

Looking at the code, this is just a generic exception handler message.

Author: Chris Johns 2017-10-24T21:03:20.000Z

Replying to [Joel Sherrill](#):

Seems to be worse now but at least the output isn't an exception trace. Updated, cleaned, and reinstalled.

Thank you for the report. I am wondering is something is happening with the installed version I have broken. It looks like there is also some issues with the naming of the INI files and the BSP name I need to resolve.

```
Both installed and from the source tree fail with
this: [joel@rtbf64c b-erc32]$ /home/joel/rtems-
work/tools/4.12/bin/rtems-test Incorrect RTEMS
Tools installation [joel@rtbf64c b-erc32]$ ../rtems-
tools/tester/rtems-test Incorrect RTEMS Tools installation
Looking at the code, this is just a generic exception handler
message.
```

Yes, an import is broken. I need to do an install and test. I did not do this.

Chris

Author: Chris Johns 2017-10-24T21:48:01.000Z

Replying to [Joel Sherrill](#):


```
[joel@rtbf64c b-erc32]$ /home/joel/rtems-work/tools/4.12/bin/rtems-
test Incorrect RTEMS Tools installation [joel@rtbf64c b-erc32]$
../rtems-tools/tester/rtems-test Incorrect RTEMS Tools installation
```

Sorry my mistake and a silly one. I was playing about seeing if YAML was installed and was checking a number of hosts and all my hosts seem to have support for Python while the 2.7 docs for Python have no such module. I left the line in by mistake. Your error supports the reason I have not added YAML support, we would need a module in our code.

Author: Trac Migrate 2017-10-24T22:06:08.000Z

In [changeset:"41d0c343eefda25426e0123d3353b7cfafd7ddf7/rtems-tools" 41d0c34/rtems-tools]:

```
1 tester: Add a BSP field to each BSP INI configuration section.
2
3 The INI section in a BSP configuration is the name of the INI file so
4 each BSP configuration section needs a BSP.
5
6 Updates #3204.
```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Chris Johns 2018-10-19T00:32:43.000Z

Joel, is this ticket valid? Please close if fixed.

Author: Chris Johns 2018-11-23T03:54:05.000Z

- **Description** changed

```
1 Note: No category for rtems-tools.
2
3 My first attempt to send run logs didn't go so well. This was a weird_
  ↳ failure mode. It didn't exit but had to be killed by hand. I dropped_
  ↳ off the options related to mailing the log and it still failed. This_
  ↳ is on an up to date CentOS 7 (rtbf64c 7.4) as well as my 7.3 VM.
4
5 + {{{
6 + /home/joel/rtems-work/rtems-tools//tester/rtems-test --rtems-tools=/
  ↳ home/joel/rtems-work/tools/4.12 --rtems-bsp=erc32 --log=run.log --
  ↳ mail --mail-from=joel@rtems.org --mail-to=build@lists.rtems.org ./
  ↳ sparc-rtems4.12/c/erc32/testsuites/samples/ticker/ticker.exe ./sparc-
  ↳ rtems4.12/c/erc32/testsuites/samples/minimum/minimum.exe ./sparc-
```

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```

↳ rtems4.12/c/erc32/testsuites/samples/iostream/cxx_iostream.exe ./
↳ sparc-rtems4.12/c/erc32/testsuites/samples/fileio/fileio.exe ./sparc-
↳ rtems4.12/c/erc32/testsuites/samples/capture/capture.exe ./sparc-
↳ rtems4.12/c/erc32/testsuites/samples/nsecs/nsecs.exe ./sparc-rtems4.
↳ 12/c/erc32/testsuites/samples/paranoia/paranoia.exe ./sparc-rtems4.12/
↳ c/erc32/testsuites/samples/cdtest/cdtest.exe ./sparc-rtems4.12/c/
↳ erc32/testsuites/samples/base_sp/base_sp.exe ./sparc-rtems4.12/c/
↳ erc32/testsuites/samples/unlimited/unlimited.exe ./sparc-rtems4.12/c/
↳ erc32/testsuites/samples/hello/hello.exe
7 RTEMS Testing - Tester, 4.12 (52513610668b)
8 [ 5/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: hello.exe
9 [ 6/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: cxx_
↳ iostream.exe
10 [ 3/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: cdtest.
↳ exe
11 [ 9/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: paranoia.
↳ exe
12 [ 7/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: minimum.
↳ exe
13 [ 1/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: base_sp.
↳ exe
14 [11/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: _
↳ unlimited.exe
15 [ 4/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: fileio.
↳ exe
16 [10/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: ticker.
↳ exe
17 [ 2/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: capture.
↳ exe
18 [ 8/11] p:0 f:0 u:0 e:0 I:0 B:0 t:0 i:0 | sparc/erc32: nsecs.exe
19 Traceback (most recent call last):
20 File "/home/joel/rtems-work/rtems-tools//tester/rtems-test", line 40, _
↳ in <module>
21 rt.test.run()
22 File "/data/home/joel/rtems-work/rtems-tools/tester/rt/test.py", line _
↳ 336, in run
23 job_trace)
24 File "/data/home/joel/rtems-work/rtems-tools/tester/rt/test.py", line _
↳ 189, in report_finished
25 reports.log(tst.executable, report_mode)
26 File "/data/home/joel/rtems-work/rtems-tools/tester/rt/report.py", line _
↳ 193, in log
27 exe = path.basename(self.results[name]['exe'])
28 File "/home/joel/rtems-work/rtems-tools/rtemstoolkit/path.py", line 77, _
↳ in basename
29 return shell(os.path.basename(path))
30 File "/usr/lib64/python2.7/posixpath.py", line 121, in basename
31 i = p.rfind('/') + 1
32 AttributeError: 'NoneType' object has no attribute 'rfind'

```

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33 `+ }}}`

- **Summary** changed from *Exception in rtems-tester* to *Exception in rtems-test*

Author: Chris Johns 2018-11-23T03:54:55.000Z

Ping.

Author: Joel Sherrill 2019-12-13T14:27:38.000Z

- **Resolution** set to ~"worksforme"
- **Status** changed from *reopened* to *closed*

This is old and I haven't seen this issue recently.

4.2.1.357 3384 - Prefer int for int32_t

Id	3384
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-04-09T06:09:46.000Z
Updated	2019-12-13T06:07:28.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::enhancement, tool::gcc, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3384
Merges	0

Original author: sebastian.huber

Common systems like Linux and FreeBSD define `int32_t` to `int`. This means a lot of third party code works well in these cases:

```

1 #include <stdint.h>
2
3 void f(int32_t);
4
5 void f(int);
6
7 void g(int32_t *);
8
9 void h(void)
10 {
11     int i;
12     g(&i);
13 }
```

On RTEMS you get however in C

```

1 test.c:5:6: error: conflicting types for 'f'
2 void f(int);
3 ^
4 test.c:3:6: note: previous declaration of 'f' was here
5 void f(int32_t);
6 ^
7 test.c: In function 'h':
8 test.c:12:4: warning: passing argument 1 of 'g' from incompatible pointer type [-
  ↳Wincompatible-pointer-types]
9 g(&i);
10 ^
11 test.c:7:6: note: expected 'int32_t * {aka long int *}' but argument is of type
  ↳'int *'
12 void g(int32_t *);

```

and C++

```

1 test.c: In function 'void h()':
2 test.c:12:4: error: invalid conversion from 'int*' to 'int32_t* {aka long int*}'
  ↳[-fpermissive]
3 g(&i);
4 ^~
5 test.c:7:6: note: initializing argument 1 of 'void g(int32_t*)'
6 void g(int32_t *);
7 ^

```

This is due to a Newlib speciality which uses long for int32_t if long is a 32-bit type. To ease the use of third party software in RTEMS we should override this option and use int for int32_t just like the standard host operating systems (e.g. Linux and FreeBSD). Only a small GCC patch is required to do this:

```

1 diff --git a/gcc/config/rtems.h b/gcc/config/rtems.h
2 index 439199d4cbb..9b1408efe6f 100644
3 --- a/gcc/config/rtems.h
4 +++ b/gcc/config/rtems.h
5 @@ -48,3 +48,7 @@
6 -latomic -lc -lgcc --end-group %(!qno-linkcmds: -T linkcmds%s}}}"
7
8 #define TARGET_POSIX_IO
9 +
10 +/* Use int for int32_t (see stdint-newlib.h). */
11 +#undef STDINT_LONG32
12 +#define STDINT_LONG32 0

```

Author: Joel Sherrill 2018-04-09T13:39:53.000Z

Original author: sebastian.huber

Just to keep it clean, what if int is 16 bits on the target?

Author: Trac Migrate 2018-04-09T13:46:46.000Z

Original author: sebastian.huber

See newlib-stdint.h in GCC sources:

```
1 [...]
2 #define INT32_TYPE (STDINT_LONG32 ? "long int" : INT_TYPE_SIZE == 32 ?
   ↪ "int" : SHORT_TYPE_SIZE == 32 ? "short int" : CHAR_TYPE_SIZE == 32 ?
   ↪ "signed char" : 0)
3 [...]
```

So, 16-bit targets should not use this option.

Author: Trac Migrate 2018-06-14T05:21:24.000Z

Original author: sebastian.huber

Committed to GCC as:

<https://gcc.gnu.org/viewcvs/gcc?view=revision&revision=261582> <https://gcc.gnu.org/viewcvs/gcc?view=revision&revision=261583>
<https://gcc.gnu.org/viewcvs/gcc?view=revision&revision=261584>

Author: Trac Migrate 2018-06-14T05:23:35.000Z

Original author: sebastian.huber

- **Summary** changed from *Change int32_t to int* to *Prefer int for int32_t*

Author: Trac Migrate 2018-12-11T07:39:39.000Z

Original author: sebastian.huber

In [changeset:"b4e80fb8e29c47fa970b5cdb815c26f1af4fd173/rtems-source-builder" b4e80fb/rtems-source-builder]:

```
1 5: Update GCC 7.3.0 to 7.4.0
2
3 Update #3384.
```

Author: Trac Migrate 2018-12-13T10:34:46.000Z

Original author: sebastian.huber

In [changeset:"258129e140a2f0c7f579492bda2a86c6c1b93080/rtems-source-builder" 258129e/rtems-source-builder]:

```

1 5: Fix x86_64 GCC 7.4.0 build
2
3 Update #3384.

```

Author: Trac Migrate 2019-01-29T08:22:22.000Z

Original author: sebastian.huber

In [changeset:"4f3a2532a39b55e13f73bc3b1e2508a3fda1d6f1/rtems" 4f3a253/rtems]:

```

1 psxtmtests: Fix format warnings
2
3 Update #3384.

```

Author: Joel Sherrill 2019-12-12T23:11:05.000Z

Original author: sebastian.huber

Can this be closed?

Author: Trac Migrate 2019-12-13T06:07:14.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Author: Trac Migrate 2019-12-13T06:07:28.000Z

Original author: sebastian.huber

- **Version** set to ~"5"

4.2.1.358 3797 - Add LLVM as a package

Id	3797
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-09-14T23:48:01.000Z
Updated	2019-12-12T23:34:49.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3797
Merges	0

Add 5/rtems-llvm to build LLVM for supported hosts.

This can used to help resolve the dependency the recent trace changes have created by using LLVM symbol/dwarf support.

Author: Chris Johns 2019-12-12T23:34:49.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.359 3212 - Qemu Fails to Build, RSB Gives Odd Traceback

Id	3212
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2017-10-27T18:17:05.000Z
Updated	2019-12-12T23:24:47.000Z
Milestone	5.1
Labels	priority::normal, resolution::worksforme, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3212
Merges	0

After applying the attached patch to update the md5's to sha512's, something goes wrong in the RSB build of Qemu. There is nothing obvious from the qemu build directory. But it appears that the cd into the qemu git directory didn't work and it is acting on my RSB git clone. The RSB trace is:

```

1 script: 78: cd "/data/home/joel/rtems-work/rtems-source-builder/bare/build/qemu-
  ↳ 42d58e7c6760cb9c55627c28ae538e27dcf2f144-x86_64-linux-gnu-1"
2 script: 79: echo "=> qemu-42d58e7c6760cb9c55627c28ae538e27dcf2f144-x86_64-linux-
  ↳ gnu-1:"
3 script: 80: echo "==" %prep:"
4 script: 81: build_top=$(pwd)
5 script: 82: source_dir_qemu="qemu-42d58e7c6760cb9c55627c28ae538e27dcf2f144"
6 source setup: qemu-42d58e7c6760cb9c55627c28ae538e27dcf2f144-x86_64-linux-gnu-1:
  ↳ source qemu -q -n qemu-42d58e7c6760cb9c55627c28ae538e27dcf2f144
7 making dir: /data/home/joel/rtems-work/rtems-source-builder/bare/sources/git
8 _url: git://git.qemu-project.org/qemu.git?pull?
  ↳ checkout=42d58e7c6760cb9c55627c28ae538e27dcf2f144?submodule=dte -> /data/home/
  ↳ joel/rtems-work/rtems-source-builder/bare/sources/git/qemu.git
9 cmd: (/data/home/joel/rtems-work/rtems-source-builder/bare/sources/git/qemu.git) /
  ↳ usr/bin/git status
10 exe: ['/usr/bin/git', 'status']
11 # On branch am
12 # Untracked files:
13 #   (use "git add <file>..." to include in what will be committed)

```

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```

14 #
15 # ../../../../am/
16 # ../../../../j_qemu
17 # ../../../../nohup.out
18 # ../../../../gcc7/
19 # ../../../../rtems/4.10-targets
20 # ../../../../rtems/all
21 # ../../../../rtems/chris
22 # ../../../../rtems/do_a
23 # ../../../../rtems/do_all
24 # ../../../../rtems/nohup.out
25 # ../../../../rtems/p_rm
26 # ../../../../rtems/sh-gdb.diff
27 nothing added to commit but untracked files present (use "git add" to track)
28 cmd: (/data/home/joel/rtems-work/rtems-source-builder/bare/sources/git/qemu.git) /
    ↳usr/bin/git clean -f -d
29 exe: ['/usr/bin/git', 'clean', '-f', '-d']
30 cmd: (/data/home/joel/rtems-work/rtems-source-builder/bare/sources/git/qemu.git) /
    ↳usr/bin/git reset --hard
31 exe: ['/usr/bin/git', 'reset', '--hard']
32 HEAD is now at 96485e3 Add SHA512 checksums for qemu sources
33 cmd: (/data/home/joel/rtems-work/rtems-source-builder/bare/sources/git/qemu.git) /
    ↳usr/bin/git checkout master
34 exe: ['/usr/bin/git', 'checkout', 'master']
35 Switched to branch 'master'
36 git: pull: git://git.qemu-project.org/qemu.git
37 cmd: (/data/home/joel/rtems-work/rtems-source-builder/bare/sources/git/qemu.git) /
    ↳usr/bin/git pull
38 exe: ['/usr/bin/git', 'pull']
39 Build Set: Time 0:05:24.810871
40 abort: user terminated

```

- [0001-Add-SHA512-checksums-for-qemu-sources.patch](#)

Author: Joel Sherrill 2017-10-27T18:17:23.000Z

- **Attachment** [0001-Add-SHA512-checksums-for-qemu-sources.patch](#) added

Author: Joel Sherrill 2017-10-27T18:18:09.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Chris Johns 2018-04-11T02:09:16.000Z

I see a patch for the checksums has already gone into the repo. See [changeset:"18e1ba6a404e1477f8f2c0264790323152d8663c/rtems-source-builder" 18e1ba6a/rtems-source-builder]. The attachment will not be merged.

Author: Chris Johns 2018-04-11T02:14:22.000Z

This looks like git is walking up above the qemu.git top. I am not sure how to recreate the problem.

Can this please be moved to another milestone and if it comes up in GSoC 2018 we can look into it and get a fix?

Author: Chris Johns 2018-11-21T02:14:45.000Z

Replying to **Chris Johns**:

Can this please be moved to another milestone and if it comes up in GSoC 2018 we can look into it and get a fix?

Ping?

Author: Joel Sherrill 2019-12-12T23:24:47.000Z

- **Resolution** set to ~"worksforme"
- **Status** changed from *assigned* to *closed*

This has aged out. Closing as "works for me" since qemu has been built many times since this ticket was filed. Open new ticket for new problems.

4.2.1.360 3600 - Update or1k tools to use GCC master

Id	3600
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2018-11-09T14:46:19.000Z
Updated	2019-12-12T23:16:24.000Z
Milestone	5.1
Labels	arch:or1k, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3600
Merges	0

Stafford Horne emailed me to say that he just pushed the or1k gcc to the FSF repository. We can now switch from gcc 4.9.3 to a hash from the gcc master. I was testing periodically from his

repository before the merge so it should be working.

I am marking this as a blocker but expect it to be easy and quick to resolve. We don't want to release using gcc 4.9.3 for any target.

Author: Joel Sherrill 2019-12-12T23:16:24.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Closing. Our gcc is now at:

```
1 ~/rtems-cron-5/tools/5/bin/or1k-rtems5-gcc --version
2 or1k-rtems5-gcc (GCC) 9.2.0 20190812 (RTEMS 5, RSB_
   ↪83fa79314dd87c0a8c78fd642b2cea3138be8dd6, Newlib d14714c69)
3 Copyright (C) 2019 Free Software Foundation, Inc.
4 This is free software; see the source for copying conditions. There is_
   ↪NO
5 warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR_
   ↪PURPOSE.
```

4.2.1.361 3796 - docs/develenv directory structure bitrot

Id	3796
State	closed
Type	ISSUE
Author	Gedare Bloom
Assignee(s)	Trac Migrate
Created	2019-09-12T04:38:01.000Z
Updated	2019-12-12T23:04:10.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3796
Merges	0

The directory structure described in the Development Environment Guide is outdated and does not reflect changes made in relocating BSPs to the bsp/ directory and refactoring the include paths.

Author: Trac Migrate 2019-12-12T23:04:10.000Z

- **Owner** set to Joel Sherrill <joel@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"2e3dc9fa5fa505a1850778d1ba1b5a2b128b373a/rtems-docs"
2e3dc9f/rtems-docs]:

```

1 develenv/directory.rst: Update directory structure description
2
3 closes #3796.

```

4.2.1.362 3416 - Update Ubuntu RSB Instructions for 17.10

Id	3416
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-04-26T18:29:05.000Z
Updated	2019-12-12T22:24:30.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3416
Merges	0

The command in 3.1.5 of the RSB guide for Ubuntu seems to work for 17.10 but on at least one system gives the error:

Error :: You must put some 'source' URIs in your sources.list

A description of how to address this is at:

<https://askubuntu.com/questions/496549/error-you-must-put-some-source-uris-in-your-sources-list>

Perhaps this would be useful info to update the RSB guide with (updated Ubuntu works + hint)

- [0001-Update-list-of-required-packages-for-building-on-Ubu.patch](#)

Author: Chris Johns 2018-10-14T01:08:44.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *accepted*

Author: Chris Johns 2018-10-19T00:25:12.000Z

- **Status** changed from *accepted* to *new*

I do not user Ubuntu. A user would be the best person to do this as they can test it.

Author: Trac Migrate 2018-11-11T16:47:06.000Z

I tried building RTEMS on Ubuntu 18.04 and it worked great with the packages installed by using only this command:

```

1 sudo apt install build-essential bison flex texinfo unzip python3-dev
  ↵ git pax

```

This package list is based on the output of `sb-check` and error messages I got during the installation which I corrected installing the packages above. This probably also works for Ubuntu 17.10 but 18.04 is more important because it's LTS while 17.10 not. Because of this, Ubuntu 17.10 is also unsupported since July 19, 2018.

I also think that the part which mentions Xubuntu (the Xfce Ubuntu flavour) is redundant because every official Ubuntu flavour has the same base packages (the packages that change from flavour to flavour are the desktop environment related ones like the file managers, graphical text editors, etc. but usually not development packages like the ones that are required to build RTEMS). The id in the link (<https://docs.rtems.org/branches/master/user/hosts/posix.html#xubuntu> <-), also should be ubuntu instead of xubuntu.

With the patch attached here I fixed and updated everything.

Author: Trac Migrate 2018-11-11T16:47:43.000Z

- **Attachment** [0001-Update-list-of-required-packages-for-building-on-Ubu.patch](#) added

Author: Joel Sherrill 2019-12-12T22:24:13.000Z

The documentation changes did not include information on “Error :: You must put some ‘source’ URIs in your sources.list” being reported. As this occurred on an Ubuntu version that was not LTS, it is not being added. If this error occurs in the future on a LTS release, then add this information.

Author: Trac Migrate 2019-12-12T22:24:30.000Z

- **Owner** set to Joel Sherrill <joel@rtems.org>
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In [changeset:”9316722c2bac6e524f82274486d47cd61e5ab066/rtems-docs” 9316722/rtems-docs]:

```

1 user/hosts/posix.rst: Update Ubuntu instructions.
2
3 Note that the ticket has instructions for what to do if the
4 error message "Error :: You must put some 'source' URIs in your sources.
5 ↪list"
6 is reported. As this occurred on an Ubuntu version that was not
7 LTS, it is not being added. If this error occurs in the future on a
8 LTS release, then add this information.
9
10 closes #3416.
```

4.2.1.363 3751 - No documentation on Region Get Information Directives

Id	3751
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2019-05-20T22:29:14.000Z
Updated	2019-12-12T22:07:25.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3751
Merges	0

rtems_region_get_information and rtems_region_get_free_information are not documented in the Classic API Users Guide. They have been present since at least 4.6 and should be documented.

Author: Trac Migrate 2019-12-12T22:07:25.000Z

- **Owner** set to Joel Sherrill <joel@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"43e0d78453426c3714d86193dadaced5fa90f0d2/rtems-docs" 43e0d78/rtems-docs]:

```
1 region_manager.rst: Add docs for region get info and get free info
2
3 closes #3751.
```

4.2.1.364 3809 - Fix epiphany-rtems5-gdb-7.8 RSB download file name

Id	3809
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2019-11-01T05:38:29.000Z
Updated	2019-12-12T21:32:33.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3809
Merges	0

The file name for epiphany-rtems5-gdb-7.8 is a git hash. This results in a file in a release source directory that has no meaning ...

<https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m1911/sources/>

The release build output shows the issue ...

```

1 download: https://github.com/adapteva/epiphany-binutils-gdb/archive/
  ↳ f05996c7c42e6b2781946acbab15...<see log> -> sources/
  ↳ f05996c7c42e6b2781946acbab153a481ce3fd0b.zip
2 redirect: https://codeload.github.com/adapteva/epiphany-binutils-gdb/zip/
  ↳ f05996c7c42e6b2781946ac...<see log>
3 downloading: sources/f05996c7c42e6b2781946acbab153a481ce3fd0b.zip - 0.0 bytes

```

Author: Trac Migrate 2019-12-12T21:32:33.000Z

- **Owner** set to Joel Sherrill <joel@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"b5aa2f0f125bd5c85f3c545e52dc3cd51419988a/rtems-source-builder" b5aa2f0/rtems-source-builder]:

```

1 5/rtems-epiphany.bset: Rework to have meaningful name for gdb
2
3 closes #3809.

```

4.2.1.365 3605 - RTL Allows Unloading a Module other Modules Depend Upon (cloned)

Id	3605
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-13T06:18:07.000Z
Updated	2019-12-12T18:19:17.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3605
Merges	0

Original author: Kevin Gordon

Cloned from [#3195](#):

Consider the following example using ELF .o files from compiled source files module-0.c and module-1.c from ticket [#3194](#):

module-0.o is loaded using `dlopen()` with no code or data dependencies. module-1.o is loaded using `dlopen()` with both code and data dependencies on module-0 which are resolved by RTL.

The RTL function `dlclose()` returns no error when module-0 is unloaded, when it should return an error and not unload module-0. This becomes quite dangerous because a subsequent call to

module1Function1() in the currently-loaded module-1.o, which accesses shared_resource_0[] and calls module0Function0(), will result in an unexpected trap on qemu or the call succeeding with the correct return value on hardware when it should not.

The erroneous successful unload() of module-0 aside, it appears as though the resources are not actually deleted and I believe this ticket is related to tickets [#3192](#) and [#3194](#).

Architecture is sparc-leon3 using both the RTEMS 4.11.1 public release and rtems master [@f043b9bd3bf25626fb1a311dd7fa041eacc68adc](#) with rtems-source-builder [@55f2d69e9b67cde23d61375fa34ef5b0f04a985d](#).

Execution environments are qemu-system-sparc and LEON3 UT700 hardware.

Author: Trac Migrate 2018-11-22T02:17:31.000Z

Original author: Kevin Gordon

In [\[changeset:"03139d5b1cf95d5b2f699e8f56e1f0ba2d7f89e4/rtems"03139d5b/rtems\]](#):

```
1 libdl: Add object file dependencies to track references
2
3 Tracking references lets us manage when an object file can be
4 unloaded. If an object file has references to it, it cannot be
5 unloaded.
6
7 Modules that depend on each other cannot be unloaded.
8
9 Updates #3605
```

Author: Chris Johns 2019-12-12T17:08:23.000Z

Original author: Kevin Gordon

Kevin, is this fixed? It would be nice if we can close this ticket.

Author: Chris Johns 2019-12-12T18:19:17.000Z

Original author: Kevin Gordon

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

The email bounced. I will close this.

4.2.1.366 3831 - Duplicate description of Tiers and Rules

Id	3831
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2019-12-03T15:07:35.000Z
Updated	2019-12-12T17:29:08.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3831
Merges	0

I think <https://docs.rtems.org/branches/master/user/hardware/tiers.html> is intended to be the real site of this information. However, <https://devel.rtems.org/wiki/Developer/Architectures> also describes the tiers rules with slightly different language.

I think the Wiki page can be reviewed and removed. But any references and sub-pages should be dealt with at the same time. <https://devel.rtems.org/search?q=Developer%2FArchitectures&noquickjump=1&wiki=on> shows two sub-pages to deal with:

- <https://devel.rtems.org/wiki/Developer/Architectures/ARM> which is one sentence and can be removed.
- <https://devel.rtems.org/wiki/Developer/Architectures/ARM/ARM-EABI> which probably should move to the Users Manual.

This would eliminate a few pages and a point of duplication for a very important concept to the RTEMS Project.

Author: Trac Migrate 2019-12-04T13:26:37.000Z

I removed both ARM pages. The information was out of date since a couple of years.

Author: Joel Sherrill 2019-12-04T13:28:09.000Z

Thanks. I tripped across this doing the FSW slides. Were there links to these pages?

Author: Trac Migrate 2019-12-04T13:31:34.000Z

How can we figure out if there are links?

The Developer/Architectures looks like content which should be synchronized with the user manual and then get deleted.

Author: Trac Migrate 2019-12-05T14:34:51.000Z

I would interpret the two sources slightly different: 1. The manual (at docs.rtems.org) sounds like tiers are a per commit property. That would mean that

every published result tells “The BSP has this Tire on commit/release xyz”. That seems like a sane approach. 2. The wiki on the other hand tells something about “all commits”. That’s a quite inaccurate description. It doesn’t tell what the first commit is. So in theory every commit since RTEMS exists has to build and work for that board. That is just impossible. Beneath that the wiki allows simulator results in tire 1. So it’s not entirely clear what the difference to tire 2 is.

I would vote for dropping the inaccurate description in the wiki in favor of the more accurate one in the manual.

Author: Trac Migrate 2019-12-12T17:00:11.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”01be51383f39afb3803a05f4bbcce5d91737b06e/rtems-docs” 01be513/rtems-docs]:

```
1 user/hardware/tiers.rst: Merge info from Wiki.
2
3 Tiers had a write up on the Wiki which was similar but different.
4 Merged content from the Wiki which allows the Wiki page to be
5 deleted.
6
7 closes #3831.
```

Author: Joel Sherrill 2019-12-12T17:29:08.000Z

Wiki page deleted.

Sebastian: I searched for the Wiki page name in only wiki pages. Maybe there is another way but that confirmed it had no references.

4.2.1.367 3688 - rtems-docs fails to build with python3

Id	3688
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2019-02-06T09:07:24.000Z
Updated	2019-12-12T17:00:59.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3688
Merges	0

Generating generated-posix-compliance.rst fails with Python3 as reported in

<https://github.com/sphinx-doc/sphinx/issues/6021#issuecomment-460701861>

Author: Chris Johns 2019-12-12T17:00:59.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

<https://lists.rtems.org/pipermail/devel/2019-February/024753.html>

4.2.1.368 3683 - Git clone via HTTPS does not give much interactive feedback

Id	3683
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-01-28T12:19:27.000Z
Updated	2019-12-12T16:56:24.000Z
Milestone	5.1
Labels	priority::normal, resolution::wontfix, tickettype::infra, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3683
Merges	0

Original author: sebastian.huber

A Git clone via HTTPS does not give much interactive feedback. This could result in users thinking that a network issue exists and let them abort the command.

```
1 git clone https://git.rtems.org/rtems-libbsd
2 Cloning into 'rtems-libbsd'...
3 Checking out files: 100% (5159/5159), done.
```

vs.

```
1 git clone git://git.rtems.org/rtems-libbsd.git
2 Cloning into 'rtems-libbsd'...
3 remote: Counting objects: 34566, done.
4 remote: Compressing objects: 100% (8700/8700), done.
5 remote: Total 34566 (delta 24457), reused 34566 (delta 24457)
6 Receiving objects: 100% (34566/34566), 30.33 MiB | 1.34 MiB/s, done.
7 Resolving deltas: 100% (24457/24457), done.
8 Checking out files: 100% (5159/5159), done.
```

Author: Trac Migrate 2019-01-28T12:35:07.000Z

Original author: sebastian.huber

Cloning the RSB via HTTPS doesn't work for me:

```
1 git clone https://git.rtems.org/rtems-source-builder rsb
2 Cloning into 'rsb'...
```

Author: Trac Migrate 2019-01-29T07:15:57.000Z

Original author: sebastian.huber

Ok, a git clone works via HTTPS, but it is extremely slow:

```
1 time git clone https://git.rtems.org/rtems-source-builder rsb
2 Cloning into 'rsb'...
3
4 real    6m41.242s
5 user    0m5.766s
6 sys     0m3.054s
```

```
1 time git clone git://git.rtems.org/rtems-source-builder.git rsb
2 Cloning into 'rsb'...
3 remote: Counting objects: 8758, done.
4 remote: Compressing objects: 100% (5222/5222), done.
5 remote: Total 8758 (delta 6078), reused 5028 (delta 3494)
6 Receiving objects: 100% (8758/8758), 2.89 MiB | 1.12 MiB/s, done.
7 Resolving deltas: 100% (6078/6078), done.
8
9 real    0m4.469s
10 user    0m0.415s
11 sys     0m0.083s
```

Author: Chris Johns 2019-02-12T21:30:12.000Z

Original author: sebastian.huber

The https access has recently been discussed on the devel list. This thread is the start:

<https://lists.rtems.org/pipermail/devel/2019-February/024816.html>

Author: Chris Johns 2019-12-12T16:56:24.000Z

Original author: sebastian.huber

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

I am going to close this ticket. The documentation uses `git://`.

If this is important funding is need to see why that we need to sort out in cgit.

4.2.1.369 3793 - trace record tool does not build on Windows

Id	3793
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2019-09-06T01:59:33.000Z
Updated	2019-12-12T16:56:09.000Z
Milestone	5.1
Labels	priority::high, resolution::fixed, resolution::wontfix, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3793
Merges	0

The error is:

```

1 ../trace/record/record-main-lttn.c:32:10: fatal error: sys/queue.h: No such file_
  ↳ or directory
2 #include <sys/queue.h>

```

This is with the version the RSB is using

Author: Chris Johns 2019-09-06T02:15:05.000Z

rtems-tools master is also broken ...

```

1 Waf: Leaving directory `D:/opt/rtems/rtems-tools.git/build'
2 ../trace/record/record-client-base.cc:30:10: fatal error: arpa/inet.h:
  ↳ No such file or directory
3 #include <arpa/inet.h>
4 ^~~~~~
5 compilation terminated.
6
7 Build failed

```

Author: Chris Johns 2019-12-12T16:53:04.000Z

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

Fixed.

Author: Chris Johns 2019-12-12T16:55:56.000Z

- **Resolution** ~"wontfix" deleted
- **Status** changed from *closed* to *reopened*

Reopen to fix the close reason.

Author: Chris Johns 2019-12-12T16:56:09.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

4.2.1.370 3842 - RSB RTEMS version message string is fixed to the git hash

Id	3842
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-12-12T15:18:06.000Z
Updated	2019-12-12T16:14:05.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3842
Merges	0

The version embedded in the RTEMS version message is currently the git hash. This breaks in a release where the version is reported as no-repo. The RTEMS version message is embedded in the gcc version string.

Author: Trac Migrate 2019-12-12T16:14:05.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"5f2a4d2a0df82f91584d7140f888ddf08aa5850d/rtems-source-builder" 5f2a4d2/rtems-source-builder]:

```

1 rtems: Set the RTEMS release message's RSB version correctly
2
3 Closes #3842
```

4.2.1.371 3839 - RTEMS revision does not handle -

Id	3839
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-12-11T15:41:47.000Z
Updated	2019-12-11T15:57:43.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::build, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3839
Merges	0

RTEMS configure logic that takes a version number and splits it into major, minor and revision values. The current release snapshots have a version number of 5.0.0-m1912 and this is not correct parsed.

Author: Trac Migrate 2019-12-11T15:57:43.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"86c70e71f95dc9cfdbbe7824520c8bc0955e8161/rtems" 86c70e71/rtems]:

```

1 Support parsing - in a version string
2
3 Closes #3839
```

4.2.1.372 3830 - Build problems with user names which contain space characters

Id	3830
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-12-03T07:14:50.000Z
Updated	2019-12-03T10:53:21.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3830
Merges	0

Original author: sebastian.huber

The RSB uses the user name as path components. This does not work well if the user name contains space characters. Use the user ID number instead.

Author: Trac Migrate 2019-12-03T10:53:21.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"e26d86f32b5a66615724a618899942f909cb8b4a/rtems-source-builder" e26d86f/rtems-source-builder]:

```
1 Use user ID number instead of name
2
3 This helps to avoid issues with user names which contain space
4 characters.
5
6 Close #3830.
```

4.2.1.373 3781 - RSB crashes in case the host as an unreadable directory in "/"

Id	3781
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-08-09T10:42:57.000Z
Updated	2019-12-03T05:53:07.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3781
Merges	0

Original author: sebastian.huber

```
1 butrfeld@elektra:~/rtemsSMP/src/rsb/rtems$ ../source-builder/sb-set-builder --
  ↳source-only-download 5/rtems-sparc
2 RTEMS Source Builder - Set Builder, 5 (29fab0500e22)
3 Traceback (most recent call last):
4 File "../source-builder/sb/cmd-set-builder.py", line 26, in <module>
5   setbuilder.run()
6 File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/setbuilder.py",
  ↳line 674, in run
7   if not check.host_setup(opts):
8 File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/check.py", line
  ↳127, in host_setup
9   if not path_check(opts):
```

(continues on next page)

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```

10 File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/check.py", line 115, in path_check
    ↪ 115, in path_check
11 elif not path.exists(p):
12 File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/path.py", line 131,
    ↪ in exists
13 return _exists(shell(paths))
14 File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/path.py", line 124,
    ↪ in _exists
15 return basename(p) in ['.'] + listdir(dirname(p))
16 File "/users/staff/butrfeld/rtemsSMP/src/rsb/source-builder/sb/path.py", line 118,
    ↪ in listdir
17 return os.listdir(hp)
18 OSError: [Errno 13] Permission denied: '/adm'

```

The root directory “/” looks like this:

```

1 butrfeld@elektra:/$ ls -ls
2 total 89
3 4 drwxr-x---+  6 root root  4096 Nov  5  2018 adm
4 4 drwxr-xr-x   2 root root  4096 Apr 10 06:17 bin

```

Author: Trac Migrate 2019-08-09T10:49:09.000Z

Original author: sebastian.huber

In source-builder/sb/check.py:

```

1 def path_check(opts, silent = False):
2     if 'PATH' in os.environ:
3         paths = os.environ['PATH'].split(os.pathsep)
4         for p in paths:
5             if len(p.strip()) == 0:
6                 if not silent:
7                     log.notice('error: environment PATH contains an empty path')
8                 return False
9             elif not options.host_windows and (p.strip() == '.' or p.strip() == '..
    ↪ ):
10             if not silent:
11                 log.notice('error: environment PATH invalid path: %s' % (p))
12             return False
13             elif not path.exists(p):
14                 if not silent and opts.warn_all():
15                     log.notice('warning: environment PATH not found: %s' % (p))
16                 elif not path.isdir(p):
17                     if not silent and opts.warn_all():
18                         log.notice('warning: environment PATH not a directory: %s' % (p))
19             return True

```

The path.exists() seems to be rather complicated, why is it necessary in addition to path.isdir()? What is the overall goal of this check? Is it not the responsibility of the

user to take care of his \$PATH variable?

Author: Trac Migrate 2019-11-27T13:52:12.000Z

Original author: sebastian.huber

This bug is still open. It is a show stopper on some systems.

Author: Trac Migrate 2019-11-27T13:55:58.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*

I suggest to remove this check. I think the RSB tries to be smarter than necessary here.

Author: Trac Migrate 2019-11-29T06:34:35.000Z

Original author: sebastian.huber

I am not sure if these hard errors are really useful, e.g.

```
1 $ export PATH=::$PATH
2 $ ./source-builder/sb-set-builder --prefix=/build/rtems/5 5/rtems-arm --
  ↪source-only-download
3 RTEMS Source Builder - Set Builder, 5 (f3b44b25d135)
4 error: environment PATH contains an empty path
5 error: host build environment is not set up correctly
6 Build FAILED
```

Why don't we just issue a warning? If something goes wrong the warning will show up in the logs.

Author: Chris Johns 2019-12-01T23:14:09.000Z

Original author: sebastian.huber

I wonder how many issues have been fixed by having this check present that users cleaned up?

If we remove this test and we get no increase in issues then the test did nothing and our users all had clean environments. An increase means it did serve a purpose. I also think your point about the RSB nannying our users this way may be a step too far so making the tests just warnings and no fatal would be a good compromise. It would let us request the output with debugging a specific user problem.

Author: Trac Migrate 2019-12-02T08:48:07.000Z

Original author: sebastian.huber

Nannying fits quite well. The empty path check is not superfluous. If I remove it, then RSB fails with:

```
1 $ export PATH=::$PATH
2 $ ../source-builder/sb-set-builder 5/rtems-arm --source-only-download
3 error: unknown application load error
4 error: unknown application load error
```

Author: Trac Migrate 2019-12-03T05:53:07.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"784f518df465d2078af58453ea3e96febc37bc1b/rtems-source-builder" 784f518/rtems-source-builder]:

```
1 Be more resilient against $PATH errors
2
3 Close #3781.
```

4.2.1.374 3823 - **Untar_** family doesn't handle nested directories

Id	3823
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-11-20T06:03:11.000Z
Updated	2019-11-26T07:35:06.000Z
Milestone	5.1
Labels	priority::low, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3823
Merges	0

Original author: jbrandmeyer

At least, not in some circumstances.

For example, foo/bar.txt untar's just fine, but foo/bar/baz.txt does not. If sub-directory foo/ exists first, then foo/bar/baz.txt does unpack correctly.

We only use the Untar_*() family during our initial programming workflow, so hacking around this problem wasn't too laborious for us.

Author: Chris Johns 2019-11-20T22:24:42.000Z

Original author: jbrandmeyer

What happens if you add `--format=ustar` to your tar command ?

Author: Trac Migrate 2019-11-21T08:08:50.000Z

Original author: jbrandmeyer

In [changeset:"11455b2e6d7799297332a31a09496177ab792b27/rtems" 11455b2e/rtems]:

```
1 imfs: Fix IMFS_make_linearfile()
2
3 Fix prototype.
4
5 Fix node size. Linfiles are dynamically turned into memfiles.
6
7 Update #3823.
```

Author: Trac Migrate 2019-11-25T10:45:48.000Z

Original author: jbrandmeyer

In [changeset:"b6f66d9345a6deea43310e31b519dd35bdbb5908/rtems" b6f66d9/rtems]:

```
1 untar: Unify untar support
2
3 Update #3823.
```

Author: Trac Migrate 2019-11-25T10:45:52.000Z

Original author: jbrandmeyer

- **Owner** set to Sebastian Huber <sebastian.huber@embedded-brains.de>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"2de05dd58844b4ebcf9b73262e627f202bedec2d/rtems" 2de05dd/rtems]:

```
1 untar: Make path also for symbolic links
2
3 Close #3823.
```

Author: Trac Migrate 2019-11-25T18:45:57.000Z

Original author: jbrandmeyer

Thanks for the fixes; I'll retest in our workflow shortly. Our team is in a "frozen for release" state at the moment, so we're somewhat behind RTEMS master right now.

Using the ustar format had no effect.

Author: Trac Migrate 2019-11-26T06:33:58.000Z

Original author: jbrandmeyer

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

I added a test case and noticed, that the path creation is still broken.

Author: Trac Migrate 2019-11-26T07:35:06.000Z

Original author: jbrandmeyer

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

In [changeset:"4551f5f0dbb4971633c8aeae3d29a7437da5316d/rtems" 4551f5f/rtems]:

```
1 untar: Properly make parent path
2
3 Close #3823.
```

4.2.1.375 3814 - Releasing creates 2 copies or the kernel and tools.

Id	3814
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-11-04T03:46:47.000Z
Updated	2019-11-18T22:16:04.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3814
Merges	0

The release snapshot m1911 as found here:

<https://ftp.rtems.org/pub/rtems/releases/5/5.0.0/5.0.0-m1911/>

has a kernel (rtems-5.0.0-m1911.tar.xz) in the top directory and another copy in the sources directory.

The top level copy is the head of the branch, in this case master while I suspect the copy in the sources directory is created by the RSB when collecting the source.

Which is correct for a release? I am not sure, the tagged version in the RSB or the release packaged version?

I tend to think the release packaged version is used and the RSB collected versions should not be collected. They are only useful when working from git.

Author: Trac Migrate 2019-11-18T22:16:01.000Z

In [changeset:"6950f2200707f43a8e1d22e0b20b9af5c8d8b637/rtems-source-builder" 6950f22/rtems-source-builder]:

```
1 sb: Add support for a comma separated release path list.
2
3 Updates #3814
```

Author: Trac Migrate 2019-11-18T22:16:04.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"f0b0a70a482d5ccda497039f0254d4d20a86f123/rtems-source-builder" f0b0a70/rtems-source-builder]:

```
1 rtems: Fix kernel and tools release source package selection.
2
3 Closes #3814
```

4.2.1.376 3811 - Release source path on ftp.rtems.org is wrong

Id	3811
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2019-11-03T01:19:06.000Z
Updated	2019-11-12T17:44:37.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3811
Merges	0

The released source directory in the release snapshot is wrong. The RSB is fetching .. <https://ftp.rtems.org/pub/rtems/releases/5/5.0.0-m1911/sources>

Author: Chris Johns 2019-11-11T03:49:16.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

<https://git.rtems.org/rtems-release/commit/?id=669f17dfba4554eafa8ebc82c437133cd51e8ed9>

Author: Trac Migrate 2019-11-12T17:44:37.000Z

- **Owner** set to Chris Johns <chrisj@rtems.org>

In [changeset:"669f17dfba4554eafa8ebc82c437133cd51e8ed9/rtems-release" 669f17d/rtems-release]:

```
1 rsb: Set the correct release snapshot path.
2
3 Closes #3811
```

4.2.1.377 3624 - MSYS2 builds appear to ignore tcfg file

Id	3624
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-11-26T23:44:53.000Z
Updated	2019-11-11T14:04:43.000Z
Milestone	5.1
Labels	priority::normal, resolution::wontfix, rtems::build, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3624
Merges	0

Building m68k/mrm332 on Linux and MSYS2 to compare results. Builds with all tests on Linux. Multiple build failures on MSYS2. Some appear to be because on MSYS2, tests are being build which are marked as exclude in the .tcfg file. For example, <https://git.rtems.org/rtems/tree/bsps/m68k/mrm332/config/mrm332-testsuite.tcfg#n11> says that fsdosfsname01 should be excluded but it is being built as shown below:

```
1 m68k-rtems5-gcc -mcpu=cpu32 -Os -g -fomit-frame-pointer -Wall -Wmissing-
  ↳ prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs
  ↳ -B./../../../../lib/libbsp/m68k/mrm332 -B/home/jrs007/rtems-work/rtems/bsps/m68k/
  ↳ mrm332/start -specs bsp_specs -qrtems -L./../../../../cpukit -L/home/jrs007/rtems-
  ↳ work/rtems/bsps/m68k/shared/start -Wl,--wrap=printf -Wl,--wrap=puts -Wl,--
  ↳ wrap=putchar -o fsdosfsname01.exe fsdosfsname01/fsdosfsname01-init.o support/
  ↳ fsdosfsname01-ramdisk_support.o ./../../../../lib/libbsp/m68k/mrm332/librtemsbsp.a ./
  ↳ ./../../../../cpukit/librtemscpu.a
2 c:/msys64/home/jrs007/rtems-work/tools/5/bin/./lib/gcc/m68k-rtems5/7.3.0/../../../../
  ↳ ./m68k-rtems5/bin/ld.exe: fsdosfsname01.exe section `.text' will not fit in
  ↳ region `rom'
3
4 c:/msys64/home/jrs007/rtems-work/tools/5/bin/./lib/gcc/m68k-rtems5/7.3.0/../../../../
  ↳ ./m68k-rtems5/bin/ld.exe: region `rom' overflowed by 874128 bytes
5
6 collect2.exe: error: ld returned 1 exit status
```

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```

7
8 make[5]: *** [Makefile:1910: fsdosfsname01.exe] Error 1

```

Author: Trac Migrate 2019-11-11T14:04:43.000Z

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

This will be fixed by the new build system, see [#3818](#).

4.2.1.378 3736 - PowerPC Beatnik BSP C++ exceptions broken

Id	3736
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2019-04-11T00:08:08.000Z
Updated	2019-11-11T03:51:30.000Z
Milestone	5.1
Labels	arch:powerpc, priority::high, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3736
Merges	0

Running `cdtest.exe` fails. I am wondering if there is an issue in the `linkcmd` scripts this BSP uses. The `psim` works.

The trace is:

```

1 config addr is 0xf1000cf8
2 config data is 0xf1000cfc
3 Welcome to RTEMS rtems-5.0.0 (PowerPC/Generic (classic FPU)/beatnik)
4 CPU: MPC7457
5 Board Type: MVME5500-0161 (S/N E1712C9)
6 Bus Clock Freq: 133333333 Hz
7 CPU Clock Freq: 1000000000 Hz
8 Memory: 536870912 bytes
9 -----
10 Now BSP_mem_size = 0x1fe00000
11 Configuration.work_space_size = a170
12 Page table setup finished; will activate it NOW...
13 Going to start PCI buses scanning and initialization
14 Number of PCI buses found is : 3
15 MSR 0x2003032
16 Exit from bspstart
17 Universe II PCI-VME bridge detected at 0x82000000, IRQ 76
18 Universe Master Ports:

```

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```

19 Port  VME-Addr  Size      PCI-Adrs  Mode:
20 0:    0x20000000 0x0e000000 0x90000000 A32, D64 [MBLT], Dat, Sup
21 1:    0x00000000 0x00ff0000 0x9f000000 A24, D64 [MBLT], Dat, Sup
22 2:    0x00000000 0x00010000 0x9fff0000 A16, D64, Dat, Sup
23 7:    0x00000000 0x01000000 0x9e000000 CSR, D64, Dat, Sup
24 Universe Slave Ports:
25 Port  VME-Addr  Size      PCI-Adrs  Mode:
26 0:    0x90000000 0x1fe00000 0x00000000 A32, Pgm, Dat, Sup, Usr, PWEN, PRE
27 N
28 vmeUniverse IRQ manager: looking for registers on VME...
29 Trying to find CRG on VME...
30 vmeUniverse IRQ manager - registers not found on VME; falling back to PCI
31
32
33 *** BEGIN OF TEST CONSTRUCTOR/DESTRUCTOR ***
34 *** TEST VERSION: 5.0.0.8a8b95aa1d6932ba9d2acd7a785100f7d0919205-modified
35 *** TEST STATE: EXPECTED-PASS
36 *** TEST BUILD: RTEMS_NETWORKING RTEMS_POSIX_API
37 *** TEST TOOLS: 7.4.0 20181206 (RTEMS 5, RSB 9a3e12e5820918057633798c3fe2
38 a1f952fb4e56, Newlib 1d35a003f)
39 GLOBAL: Hey I'm in base class constructor number 1 for 0x5c404.
40 GLOBAL: Hey I'm in base class constructor number 2 for 0x5c410.
41 GLOBAL: Hey I'm in derived class constructor number 3 for 0x5c410.
42 LOCAL: Hey I'm in base class constructor number 4 for 0x6cbdc.
43 LOCAL: Hey I'm in base class constructor number 5 for 0x6cbd0.
44 LOCAL: Hey I'm in base class constructor number 6 for 0x6cbc4.
45 LOCAL: Hey I'm in base class constructor number 7 for 0x6cbb8.
46 LOCAL: Hey I'm in derived class constructor number 8 for 0x6cbb8.
47 IO Stream not tested
48 LOCAL: Hey I'm in derived class destructor number 8 for 0x6cbb8.
49 Derived class - Instantiation order 8
50 LOCAL: Hey I'm in base class destructor number 7 for 0x6cbb8.
51 Derived class - Instantiation order 8
52 LOCAL: Hey I'm in base class destructor number 6 for 0x6cbc4.
53 Derived class - Instantiation order 6
54 LOCAL: Hey I'm in base class destructor number 5 for 0x6cbd0.
55 Derived class - Instantiation order 5
56 LOCAL: Hey I'm in base class destructor number 4 for 0x6cbdc.
57 Derived class - Instantiation order 5
58 *** TESTING C++ EXCEPTIONS ***
59
60 fatal source: RTEMS_FATAL_SOURCE_EXIT
61 bsp_fatal_extension(): RTEMS terminated

```

Author: Trac Migrate 2019-04-11T06:42:09.000Z

Maybe related to [#3339](#).

Author: Chris Johns 2019-04-11T07:06:51.000Z

Replying to [Sebastian Huber](#):

Maybe related to [#3339](#).

If you mean a broken linkcmd file, yes. There are a number of BSP specific linkcmd files and this is hurting us, these BSPs and their users. A common linkcmd file for the arch means a simulator is able to do a lot of the needed testing.

We have a lot of important systems running PowerPC BSPs and there are issues. I think it would be good to sort this out but we need someone to do this or use a support service and we need someone with enough gear or access to people with the gear it to make the changes and get a working base line.

Author: Trac Migrate 2019-05-07T08:32:31.000Z

- **Owner** set to Sebastian Huber <sebastian.huber@embedded-brains.de>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"f6895c6d552772cd16f36c20551bfa84190bb5b9/rtems" f6895c6/rtems]:

```
1 bspc/powerpc: Fix C++ exception handling
2
3 Close #3736.
```

4.2.1.379 3806 - Add fatal error for heap errors

Id	3806
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-10-31T12:10:55.000Z
Updated	2019-11-05T11:50:33.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3806
Merges	0

Original author: sebastian.huber

Currently, the following fatal error is generate in case of heap errors:

```

1 static void _Heap_Protection_block_error_default(
2 Heap_Control *heap,
3 Heap_Block *block
4 )
5 {
6 /* FIXME */
7 _Terminate( INTERNAL_ERROR_CORE, 0xdeadbeef );
8 }

```

Replace this with a dedicated fatal error source and a context structure (similar to assert()).

Author: Trac Migrate 2019-11-05T11:50:12.000Z

Original author: sebastian.huber

In [changeset:"3859cd63afb4cb5f76d125e80f968497478d553f/rtems" 3859cd63/rtems]:

```

1 rtems-5: Improve heap fatal error information
2
3 Update #3806.

```

Author: Trac Migrate 2019-11-05T11:50:33.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"dee158cd68a6e8cbb18853bef592281110bb980b/rtems-docs" dee158c/rtems-docs]:

```

1 c-user: Document RTEMS_FATAL_SOURCE_HEAP
2
3 Close #3806.

```

4.2.1.380 3805 - libdebugger build error on atsamv

Id	3805
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2019-10-30T13:30:05.000Z
Updated	2019-10-30T20:48:48.000Z
Milestone	5.1
Labels	cpukit::debugger, priority::normal, resolution::invalid, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3805
Merges	0

This was caught in a build sweep using rtems-bsp-builder.

Configure command:

```
1 /home/joel/rtems-cron-5/rtems/configure --target=arm-rtems5 --enable-
  ↳ rtemsbsp=atsamv --prefix=/home/joel/rtems-cron-5/tools/5/bsps --enable-rtems-
  ↳ debug --disable-smp
```

Compiler output:

```
1 arm-rtems5-gcc --pipe -DHAVE_CONFIG_H -I. -I/home/joel/rtems-cron-5/b-atsam/arm-
  ↳ rtems5/c/atsamv/include -I/home/joel/rtems-cron-5/rtems/cpukit/include -I/home/
  ↳ joel/rtems-cron-5/rtems/cpukit/score/cpu/arm/include -I/home/joel/rtems-cron-5/
  ↳ rtems/cpukit/libnetworking -mthumb -mcpu=cortex-m7 -mfpv5-d16 -mfloat-
  ↳ abi=hard -O2 -g -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -
  ↳ Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT_
  ↳ libdebugger/rtems-debugger-arm.o -MD -MP -MF $depbase.Tpo -c -o libdebugger/
  ↳ rtems-debugger-arm.o /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/
  ↳ libdebugger/rtems-debugger-arm.c &&\\
2 mv -f $depbase.Tpo $depbase.Po
3 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
  ↳ c: In function 'arm_debug_mmap_enable':
4 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
  ↳ c:826:12: warning: unused variable 'abort_handler' [-Wunused-variable]
5 void* abort_handler;
6 ~~~~~~
7 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
  ↳ c: In function 'arm_debug_unlock_abort':
8 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
  ↳ c:1593:53: error: 'arm_switch_reg' undeclared (first use in this function)
9 #define EXCEPTION_ENTRY_EXC() (void) arm_switch_reg
10 ^
11 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
  ↳ c:1609:3: note: in expansion of macro 'EXCEPTION_ENTRY_EXC'
12 EXCEPTION_ENTRY_EXC();
13 ~~~~~~
```

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```

14 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
   ↳c:1593:53: note: each undeclared identifier is reported only once for each_
   ↳function it appears in
15 #define EXCEPTION_ENTRY_EXC()                (void) arm_switch_reg
16 ^
17 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
   ↳c:1609:3: note: in expansion of macro 'EXCEPTION_ENTRY_EXC'
18 EXCEPTION_ENTRY_EXC();
19 ^~~~~~
20 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
   ↳c:1607:24: warning: variable 'frame' set but not used [-Wunused-but-set-
   ↳variable]
21 CPU_Exception_frame* frame;
22 ^~~~~
23 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
   ↳c: In function 'target_exception_undefined_instruction':
24 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
   ↳c:1593:53: error: 'arm_switch_reg' undeclared (first use in this function)
25 #define EXCEPTION_ENTRY_EXC()                (void) arm_switch_reg
26 ^
27 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
   ↳c:1619:3: note: in expansion of macro 'EXCEPTION_ENTRY_EXC'
28 EXCEPTION_ENTRY_EXC();
29 ^~~~~~
30 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
   ↳c: In function 'target_exception_supervisor_call':
31 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
   ↳c:1593:53: error: 'arm_switch_reg' undeclared (first use in this function)
32 #define EXCEPTION_ENTRY_EXC()                (void) arm_switch_reg
33 ^
34 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
   ↳c:1642:3: note: in expansion of macro 'EXCEPTION_ENTRY_EXC'
35 EXCEPTION_ENTRY_EXC();
36 ^~~~~~
37 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
   ↳c: In function 'target_exception_prefetch_abort':
38 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
   ↳c:1593:53: error: 'arm_switch_reg' undeclared (first use in this function)
39 #define EXCEPTION_ENTRY_EXC()                (void) arm_switch_reg
40 ^
41 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
   ↳c:1659:3: note: in expansion of macro 'EXCEPTION_ENTRY_EXC'
42 EXCEPTION_ENTRY_EXC();
43 ^~~~~~
44 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
   ↳c: In function 'target_exception_data_abort':
45 /home/joel/rtems-cron-5/rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.
   ↳c:1593:53: error: 'arm_switch_reg' undeclared (first use in this function)
46 #define EXCEPTION_ENTRY_EXC()                (void) arm_switch_reg

```

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```

47 ^
48 /home/joel/rtems-cron-5/rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-arm.
   ↳c:1676:3: note: in expansion of macro 'EXCEPTION_ENTRY_EXC'
49 EXCEPTION_ENTRY_EXC();
50 ^~~~~~
51 At top level:
52 /home/joel/rtems-cron-5/rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-arm.
   ↳c:1605:1: warning: 'arm_debug_unlock_abort' defined but not used [-Wunused-
   ↳function]
53 arm_debug_unlock_abort(void)

```

Author: Chris Johns 2019-10-30T20:47:02.000Z

- **Resolution** set to ~”invalid”
- **Status** changed from *new* to *closed*

This has been fixed. See the simpler beaglebone error, I think number 10. I think your source tree is not up to date in your build system.

Author: Chris Johns 2019-10-30T20:48:48.000Z

<https://git.rtems.org/rtems/commit/?id=32c9b831094e5d8474e07e87e978bc33f1472f1c>
<https://git.rtems.org/rtems/commit/?id=2fdbdbc8b17a40837c53d70106f99eb8ec7c7988>

4.2.1.381 3783 - MSYS2 RSB build error

Id	3783
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-08-12T07:55:10.000Z
Updated	2019-09-09T14:31:06.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3783
Merges	0

Original author: jameszxj

I tried to update the compiler to RSB master, and encountered an error. command line:
 ../source-builder/sb-set-builder --dry-run --with-download 5/rtems-arm

error messgae:

```

config: tools/rtems-gdb-8.2.1-1.cfg error: shell macro failed: sh -c "/mingw64/bin/python2-
config --ldflags | awk 'BEGIN{FS=" "} /python/{for(i=1;i<NF;++i)if(match($i,".*lpython.*"))
print "lib"substr($i,3)"*";}'": 1: }/python/{for(i=1;i<NF;++i)if(match($i,".*lpython.*"))

```

```
print libsubstr($i,3)*;}' -c: line 0: unexpected EOF while looking for matching `"'
}/python/{for(i=1;i<NF;++i)if(match($i,.*python.*)) print libsubstr($i,3)*;}' -c: line 1:
syntax error: unexpected end of file Build FAILED Build Set: Time 0:00:47.324763 Build FAILED
```

- [errmsg.png](#)

Author: Trac Migrate 2019-08-12T07:57:03.000Z

Original author: jameszsj

- **Attachment** [errmsg.png](#) added

Author: Trac Migrate 2019-09-09T14:31:06.000Z

Original author: jameszsj

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

This error is the same as [#3972](#), #3972 has been fixed.

4.2.1.382 3792 - RSB fails to build on MSYS2

Id	3792
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2019-09-05T14:02:25.000Z
Updated	2019-09-06T01:53:14.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3792
Merges	0

Original author: jeff.mayes

Fresh install of Windows 10, with updates. Then installed MSYS2 as instructed here: <https://docs.rtems.org/branches/master/user/hosts/windows.html#msys2>

Fetches the RSB, and then tried to build rtems-sparc tools, like this. . .

```
$ ../source-builder/sb-set-builder -prefix=/home/mayes/dev/rtems/5 5/rtems-sparc RTEMS
Source Builder - Set Builder, 5 (b45df48a51bc) Build Set: 5/rtems-sparc Build Set:
5/rtems-autotools.bset Build Set: 5/rtems-autotools-internal.bset config: tools/rtems-
autoconf-2.69-1.cfg .....config: devel/expat-2.1.0-1.cfg package: expat-2.1.0-x86_64-
w64-mingw32-1 building: expat-2.1.0-x86_64-w64-mingw32-1 sizes: expat-2.1.0-x86_64-
w64-mingw32-1: 9.229MB (installed: 2.037MB) cleaning: expat-2.1.0-x86_64-w64-mingw32-
1 reporting: devel/expat-2.1.0-1.cfg -> expat-2.1.0-x86_64-w64-mingw32-1.txt reporting:
devel/expat-2.1.0-1.cfg -> expat-2.1.0-x86_64-w64-mingw32-1.xml config: tools/rtems-
gdb-8.3-1.cfg error: shell macro failed: sh -c "/mingw64/bin/python2-config --ld-
flags | awk 'BEGIN{FS=" "}/python/{for(i=1;i<NF;++i)if(match($i,.*python.*)) print
```

```

“lib”substr($i,3)”*”;}””: 1:  }/python/{for(i=1;i<NF;++i)if(match($i,.*lpython.*)) print
libsubstr($i,3)*;}: -c: line 0: unexpected EOF while looking for matching `”
}/python/{for(i=1;i<NF;++i)if(match($i,.*lpython.*)) print libsubstr($i,3)*;}: -c: line 1:
syntax error: unexpected end of file Build FAILED Build Set: Time 0:07:19.564000 Build FAILED

```

This happens when using Python3 and also when using Python2.

Author: Chris Johns 2019-09-05T23:24:07.000Z

Original author: jeff.mayes

The issue is due to the shell command string containing " character that are not escaped. On MinGW these commands have to use the MSYS2 shell and not the host's shell which is some form of cmd.exe. The command to invoke the MSYS2 shell is ...

<https://git.rtems.org/rtems-source-builder/tree/source-builder/sb/config.py#n430>

The wrapping of the string in "" effects the shell's processing.

Author: Chris Johns 2019-09-05T23:31:43.000Z

Original author: jeff.mayes

The failing command on Windows is:

```

1 sh -c "/mingw64/bin/python2-config --ldflags | awk 'BEGIN{FS=" "}/
  ↪python/{for(i=1;i<NF;++i)if(match($i,.*lpython.*)) print "lib
  ↪"substr($i,3)”*”;}””

```

Author: Trac Migrate 2019-09-06T01:53:14.000Z

Original author: jeff.mayes

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d8b2719ae6f71c3380fc32aa34ac0796b98af236/rtems-source-builder" d8b2719/rtems-source-builder]:

```

1 sb/config: Escape double quotes on Windows for shell macros
2
3 Closes #3792

```

4.2.1.383 3754 - Users Guide Ubuntu Instructions Have Typo

Id	3754
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2019-06-03T16:19:42.000Z
Updated	2019-08-15T21:04:38.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3754
Merges	0

sudu should be sudo

Author: Joel Sherrill 2019-06-03T16:21:34.000Z

- **Description** changed

```

1 - sudo should be sudo
2 ?   ^
3
4 + sudo should be sudo
5 ?   ^

```

Author: Trac Migrate 2019-08-15T21:04:38.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"13baacab62723f665d086defba7b5b820e9acf50/rtems-docs" 13baaca/rtems-docs]:

```

1 hosts/posix.rst: Fix typo of sudu to sudo
2
3 Closes #3754.

```


4.2.1.384 3760 - BBB MMU update crashes

Id	3760
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2019-06-17T02:46:24.000Z
Updated	2019-08-12T23:01:20.000Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3760
Merges	0

Calling `arm_cp15_set_translation_table_entries()` on a BBB (Cortex-A8) crashes in the call to `arm_cp15_tlb_invalidate_entry_all_asids()`. There is no HYP support in the BBB's A8. The cp15 register is documented in the A8 manual but the BBB device from TI does not have the support built in.

A check of the A8 doco from ARM says this is for use in HYP mode so should we be using without checking if HYP is supported and if it is active? I am also wondering if we use should be using it on the Zynq. I have no idea why the Zync (A9) does not complain, it may be ignoring the invalidate request.

While looking at this code I was wondering why we do not follow ARM's recommendation of 'break-make' updates of the TLB? I do not know we could support such a process because we may be asked to invalidate the entry for the text section we are running in to update it.

Note, following the other path in the call works on a BBB.

Author: Chris Johns 2019-06-25T10:08:06.000Z

The implementation is:

```

1 ARM_CP15_TEXT_SECTION static inline void
2 arm_cp15_tlb_invalidate_entry_all_asids(const void *mva)
3 {
4   ARM_SWITCH_REGISTERS;
5
6   mva = ARM_CP15_TLB_PREPARE_MVA(mva);
7
8   __asm__ volatile (
9     ARM_SWITCH_TO_ARM
10    "mcr p15, 0, %[mva], c8, c7, 3\\n"
11    ARM_SWITCH_BACK
12    : ARM_SWITCH_OUTPUT
13    : [mva] "r" (mva)
14    );
15 }
```

The cp15 register c8, 0, c7, 3 is undefined for a Cortex-A8 (ARM's document DDI0334K p3-12). The conditional define in arm_cp15_set_translation_table_entries catches the Cortex-A8.

Author: Trac Migrate 2019-06-25T10:42:44.000Z

Can the availability checked via a feature register at runtime?

Author: Chris Johns 2019-06-25T10:44:49.000Z

Replying to [Sebastian Huber](#):

Can the availability checked via a feature register at runtime?

Yes I think so. The test can be for variant 3 or earlier for the Cortex-A8 and 4 or higher for Cortex-A9 or later.

Author: Trac Migrate 2019-07-30T22:38:00.000Z

- **Owner** set to Chris Johns <chrisj@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"98d67923768d21bbf4b4699428492147e166cd24/rtems" 98d6792/rtems]:

```
1 arm: Select the TLB invalidate based on the core's Id variant.
2
3 Closes #3760
```

Author: Trac Migrate 2019-08-12T23:01:20.000Z

In [changeset:"15b6f44deb42867fb208ebe1632f56cdd7a0cd7b/rtems" 15b6f44d/rtems]:

```
1 arm/tlb: Fix the MP affinity check to invalidate ASIDs.
2
3 - The TI's CortexA7 MP MPIDR register returns 0
4
5 Updates #3760
```

4.2.1.385 3777 - libdl object unload debugger delete support is broken

Id	3777
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-08-04T05:14:30.000Z
Updated	2019-08-11T22:53:16.000Z
Milestone	5.1
Labels	priority::high, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3777
Merges	0

The test dl09.exe crashes on BBB, Zedboard, and RPi2 but runs on arm qemu and psim. The issue is uncovered by the heap protection support in free() where the free block has been touched.

It turns out _rtld_linkmap_delete() list code is broken. The object module's block should not be walked to the end.

Author: Trac Migrate 2019-08-11T22:53:16.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"9cb19ded5c233b86c70157fe00b809792bc13d5a/rtems" 9cb19ded/rtems]:

```
1 libdl/debugger: Fix the broken list delete when unloading an object_
  ↪ module.
2
3 Closes #3777
```

4.2.1.386 3776 - libdl ARM does not support ARM mode trampolines.

Id	3776
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-07-28T04:55:42.000Z
Updated	2019-08-04T02:36:16.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3776
Merges	0

The BBB is ARM mode and crashes dl09.exe. This is due to only Thumb mode trampoline

support.

Author: Trac Migrate 2019-08-04T02:36:16.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"8c66acc8dcb4d459c1f61f2d5f62a23d14e3af46/rtems" 8c66acc8/rtems]:

```
1 libdl/arm: Add support for ARM trampolines
2
3 Closes #3776
```

4.2.1.387 3774 - RPi2 SMP does not build

Id	3774
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2019-07-27T00:28:09.000Z
Updated	2019-07-30T09:03:30.000Z
Milestone	5.1
Labels	arch:arm, priority::high, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3774
Merges	0

```
1 arm-rtems5-gcc -march=armv7-a -mthumb -mfpu=neon -mfloat-abi=hard -mtune=cortex-
  ↳ a7 -O1 -g -ffunction-sections -fdata-sections -ffunction-sections -fdata-
  ↳ sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-
  ↳ prototypes -Wnested-externs -B./../lib/libbsp/arm/raspberrypi -B/opt/work/
  ↳ chris/rtems/kernel/rtems.git/bsps/arm/raspberrypi/start -specs bsp_specs -
  ↳ qrtems -L./../cpukit -L/opt/work/chris/rtems/kernel/rtems.git/bsps/arm/
  ↳ shared/start -Wl,--wrap=printf -Wl,--wrap=puts -Wl,--wrap=putchar -Wl,--gc-
  ↳ sections -o calloc.norun.exe POSIX/calloc.o ./../cpukit/
  ↳ librtemsdefaultconfig.a ./../lib/libbsp/arm/raspberrypi/librtemsbsp.a ./../
  ↳ cpukit/librtemscpu.a ./../cpukit/librtemstest.a
2 /opt/work/rtems/5/lib/gcc/arm-rtems5/7.4.0/./../arm-rtems5/bin/ld: calloc.
  ↳ norun.exe section `.rtemsstack' will not fit in region `VECTOR_RAM'
3 /opt/work/rtems/5/lib/gcc/arm-rtems5/7.4.0/./../arm-rtems5/bin/ld: section
  ↳ .start VMA [00000000000008000,00000000000085ff] overlaps section .rtemsstack VMA
  ↳ [0000000000000040,0000000000002003f]
4 /opt/work/rtems/5/lib/gcc/arm-rtems5/7.4.0/./../arm-rtems5/bin/ld: region
  ↳ `VECTOR_RAM' overflowed by 114752 bytes
```

Configured with ...

```
1 /opt/work/chris/rtems/kernel/rtems.git/configure --target=arm-rtems5 --prefix=/
  ↳opt/work/chris/rtems/kernel/5 --disable-networking --enable-maintainer-mode --
  ↳enable-rtems-debug --enable-tests --enable-rtemsbsp=raspberrypi2 --enable-smp
```

Author: Trac Migrate 2019-07-30T09:03:30.000Z

- **Owner** set to Sebastian Huber <sebastian.huber@embedded-brains.de>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"c5fd79cd4704a4270ba0114a1009ab8556f997c9/rtems" c5fd79cd/rtems]:

```
1 arm/raspberrypi: Fix linker map
2
3 Add NULL-pointer protection. Make MMU table read-only. Move vector
4 table to start section.
5
6 Close #3774.
```

4.2.1.388 3775 - libdl does not handle ARM mode reloc tramp parsing

Id	3775
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-07-27T23:13:30.000Z
Updated	2019-07-27T23:17:12.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3775
Merges	0

The BBB fails on libdl tests because the trampoline parsing of reloc records does not handle the ABS type relocs when the code is built in ARM mode.

Author: Trac Migrate 2019-07-27T23:17:12.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"5a678de90ccbce64ff7c39a6a660019494f2a770/rtems" 5a678de/rtems]:

```
1 libdl/arm: Fix ARM mode trampoline parsing of relocs
2
```

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```

3 - No need to dump globals syms in test dl01 when tracing
4
5 Closes #3775

```

4.2.1.389 3773 - RPi fails to boot

Id	3773
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-07-26T00:31:57.000Z
Updated	2019-07-26T07:25:32.000Z
Milestone	5.1
Labels	arch:arm, priority::highest, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3773
Merges	0

The RPi BSP fails to boot with the current master. A bsect of the repo shows the failure appears after this change [bdec62c4/rtems].

Author: Trac Migrate 2019-07-26T07:25:25.000Z

In [changeset:"0f5c1d5344aa4981eb2d88297d2c812225ee5840/rtems" 0f5c1d53/rtems]:

```

1 bsp/arm: Remove register init for ARMv7-M
2
3 There are no known ARMv7-M chips with a dual lockstep mode.
4
5 Update #3773.

```

Author: Trac Migrate 2019-07-26T07:25:28.000Z

In [changeset:"0ee2125a9268c8480f6995a789f30a85ff4831a5/rtems" 0ee2125/rtems]:

```

1 bsp/arm: Move register init to start.S
2
3 This makes it easier to review changes in start.S.
4
5 Update #3773.

```

Author: Trac Migrate 2019-07-26T07:25:32.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1e6380baf2f86cec928f32601f05c2408e76b577/rtems" 1e6380b/rtems]:

```

1 bsp/arm: Move HYP to SVC change to start.S
2
3 This fixes the corruption of r3 by the call to
4 bsp_start_arm_drop_hyp_mode().
5
6 Moving the code makes it easier to review changes in start.S.
7
8 Close #3773.
```

4.2.1.390 3763 - RSB SIS build fails on FreeBSD

Id	3763
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2019-06-26T22:36:11.000Z
Updated	2019-07-24T05:01:30.000Z
Milestone	5.1
Labels	priority::high, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3763
Merges	0

The RSB SIS build for RISC-V fails on FreeBSD with:

```

1 + CFLAGS='-O2 -pipe -fbracket-depth=1024 -I/opt/work/chris/rtems/rsb/rtems-source-
  ↳ builder.git/rtems/build/tmp/sb-chris/5/rtems-sis/opt/work/rtems/5/include ' ./
  ↳ configure '--build=x86_64-freebsd12.0' '--host=x86_64-freebsd12.0' '--program-
  ↳ prefix=sis-rtems5-' '--prefix='
2 checking for a BSD-compatible install... /usr/bin/install -c
3 checking whether build environment is sane... yes
4 checking for a thread-safe mkdir -p... build-aux/install-sh -c -d
5 checking for gawk... no
6 checking for mawk... no
7 checking for nawk... nawk
8 checking whether make sets $(MAKE)... yes
9 checking for x86_64-freebsd12.0-gcc... /usr/bin/cc -O2 -pipe -fbracket-depth=1024_
  ↳ -I/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-chris/5/
  ↳ rtems-sis/opt/work/rtems/5/include
10 checking whether the C compiler works... yes
11 checking for C compiler default output file name... a.out
12 checking for suffix of executables...
```

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```

13 checking whether we are cross compiling... no
14 checking for suffix of object files... o
15 checking whether we are using the GNU C compiler... yes
16 checking whether /usr/bin/cc -O2 -pipe -fbracket-depth=1024 -I/opt/work/chris/
   ↪ rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-chris/5/rtems-sis/opt/
   ↪ work/rtems/5/include accepts -g... yes
17 checking for /usr/bin/cc -O2 -pipe -fbracket-depth=1024 -I/opt/work/chris/rtems/
   ↪ rsb/rtems-source-builder.git/rtems/build/tmp/sb-chris/5/rtems-sis/opt/work/
   ↪ rtems/5/include option to accept ISO C89... none needed
18 checking for style of include used by make... GNU
19 checking dependency style of /usr/bin/cc -O2 -pipe -fbracket-depth=1024 -I/opt/
   ↪ work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/sb-chris/5/rtems-
   ↪ sis/opt/work/rtems/5/include... gcc3
20 checking how to run the C preprocessor... /usr/bin/cc -O2 -pipe -fbracket-
   ↪ depth=1024 -I/opt/work/chris/rtems/rsb/rtems-source-builder.git/rtems/build/tmp/
   ↪ sb-chris/5/rtems-sis/opt/work/rtems/5/include -E
21 checking for grep that handles long lines and -e... /usr/bin/grep
22 checking for egrep... /usr/bin/grep -E
23 checking for ANSI C header files... yes
24 checking for sys/types.h... yes
25 checking for sys/stat.h... yes
26 checking for stdlib.h... yes
27 checking for string.h... yes
28 checking for memory.h... yes
29 checking for strings.h... yes
30 checking for inttypes.h... yes
31 checking for stdint.h... yes
32 checking for unistd.h... yes
33 checking fcntl.h usability... yes
34 checking fcntl.h presence... yes
35 checking for fcntl.h... yes
36 checking stddef.h usability... yes
37 checking stddef.h presence... yes
38 checking for stddef.h... yes
39 checking for stdlib.h... (cached) yes
40 checking for string.h... (cached) yes
41 checking sys/time.h usability... yes
42 checking sys/time.h presence... yes
43 checking for sys/time.h... yes
44 checking for unistd.h... (cached) yes
45 checking termios.h usability... yes
46 checking termios.h presence... yes
47 checking for termios.h... yes
48 checking for readline in -lreadline... no
49 configure: error: the required "readline" library is missing

```

Author: Trac Migrate 2019-07-24T05:01:30.000Z

- **Owner** set to Chris Johns <chrisj@rtems.org>

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In [changeset:”5eb4282eb44011cc2b5d79de0e4a73dd0361c41d/rtems-source-builder” 5eb4282/rtems-source-builder]:

```

1 devel/sis: Fix building the SIS on FreeBSD
2
3 - Update to SIS 2.17 which has internal readline support for
4 the hosts which do not have readline.
5
6 Closes #3763

```

4.2.1.391 3769 - RSB BSP Builds

Id	3769
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-07-21T22:29:18.000Z
Updated	2019-07-22T21:58:10.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3769
Merges	0

Add support to the RSB for BSP build sets. The support includes building 3rd party packages for a BSP.

1. Add BSP buildset support 1. Build packages for a BSP 1. Stage buildset builds if not the outer build so dependent packages and be built before a package and used 1. Fix packages to support staged builds

Author: Trac Migrate 2019-07-22T21:58:10.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”831ae05364bca67088ddbe07cdc611300ee806c7/rtems-source-builder” 831ae05/rtems-source-builder]:

```

1 rtems/bsp: Build packages for the beagle BSP.
2
3 Closes #3769

```

4.2.1.392 3768 - Add staging support to Makefile.inc

Id	3768
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-07-19T07:52:06.000Z
Updated	2019-07-21T22:20:20.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::build, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3768
Merges	0

Add support to allow staging of an RTEMS BSP build so dependent packages can be built in a single RBS buildset build.

Author: Trac Migrate 2019-07-21T22:20:20.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"270c5df5dbaf93c19e2f66a27f4bb73c7e625629/rtems" 270c5df5/rtems]:

```

1 Makefile.inc: Add support for staged builds.
2
3 - Allow the RTEMS_ROOT to be conditionally supplied. This
4 can be a staging area before being moved to the final
5 install prefix location.
6
7 - Update the default.cfg to use RTEMS_ROOT and to not rely on
8 the exec_prefix so it's paths can be staged.
9
10 - Fix and add the needed configure subs.
11
12 Closes #3768

```

4.2.1.393 3762 - Return the current handler from ARM cp15 set exception call

Id	3762
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-06-25T08:39:58.000Z
Updated	2019-06-27T23:04:23.000Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3762
Merges	0

Update the cp15 call `arm_cp15_set_exception_handler()` to return the current handler. This lets code catch and return an exception handler, for example code to probe suspect hardware.

This is need to probe the memory map debug registers for debug v7 implementations.

Author: Trac Migrate 2019-06-27T23:04:23.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"c43071f5231b07f67116891c0612be4ebdd7f211/rtems" c43071f/rtems]:

```

1 arm: Return the current handler from arm_cp15_set_exception_handler
2
3 Closes #3762
```

4.2.1.394 3756 - Condition codes in PSR are destroyed by lazy FP context switch

Id	3756
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-06-06T06:37:59.000Z
Updated	2019-06-06T06:41:41.000Z
Milestone	5.1
Labels	arch:sparc, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3756
Merges	0

Original author: sebastian.huber

<https://lists.rtems.org/pipermail/devel/2019-June/026014.html>

Author: Trac Migrate 2019-06-06T06:41:38.000Z

Original author: sebastian.huber

In [changeset:"7d7cbf3c51a9af7cc54753ffe716f6a480ed16d1/rtems" 7d7cbf3c/rtems]:

```
1 sparc: Improve _CPU_Context_validate()
2
3 Use the FPU and check that the condition codes in the PSR are preserved.
4
5 Update #3756.
```

Author: Trac Migrate 2019-06-06T06:41:41.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"a38187051863cf4a423c4f00669c6786bc8ff60d/rtems" a3818705/rtems]:

```
1 sparc: Fix missed restoring of PSR in syscall_lazy_fp_switch
2
3 It is needed to restore PSR just before return because condition
4 codes are dirty after the CMP instructions and this may cause
5 undefined program behavior after returning from the switching
6 procedure (on following branch instruction, for example).
7
8 Close #3756.
```

4.2.1.395 3748 - libdl uses a linear symbol search on object file symbols

Id	3748
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2019-05-14T00:32:24.000Z
Updated	2019-05-22T00:03:14.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3748
Merges	0

Symbol searching has two parts, searching the object file and searching the global symbol table. Currently the object file search is linear and the global table search uses a hash table.

A large incrementally linked object file can have a large local and global set of symbols and this can slow the loading process. This issue does not show up for small object files with a few symbols which is typically how our libraries are made.

Change the object file symbol search to a binary search (bsearch). A hash table for each object file would increase the in memory object file footprint by a significant amount and would harm the small object file use case that only have a few symbols. A binary search is a suitable compromise.

Author: Trac Migrate 2019-05-22T00:03:14.000Z

- **Owner** set to Chris Johns <chrisj@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"327e45dac2edae51caabc7777e2381ad653502ff/rtems" 327e45da/rtems]:

```
1 libdl: Sort object file symbols and use a binary search to find
2
3 - Replace the linear object file symbol search with a binary search.
4 - Sort the object file symbols after loading.
5
6 Closes #3748
```

4.2.1.396 3532 - RSB source only download is host specific

Id	3532
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2018-09-27T22:59:29.000Z
Updated	2019-05-21T23:27:31.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3532
Merges	0

The RSB source only download is host specific. Configurations for builds can restrict sources or patches by host to work around specific host issues. Currently a source only download is host specific because the host check is based on the host the RSB is being run on.

The release process uses source only downloading to create the complete set of sources in a release. This issue means some host specific source may not be captured.

I am yet to figure how to resolve this issue because the download logic is driven by the configuration scripts and this type of logic exists in configuration files such as `rtems-gcc-7.3.0-newlib-d13c84eb07e35984bf7a974cd786a6cdac29e6b9.cfg`:

```

1 %if %[_build_os] == freebsd || %[_build_os] == darwin
2 %patch add gcc --rsb-file=freebsd-libgcc-sed-fix.patch -p0 https://gcc.gnu.org/
  ↳ bugzilla/attachment.cgi?id=41380
3 %hash sha256 freebsd-libgcc-sed-fix.patch_
  ↳ 8a11bd619c2e55466688e328da00b387d02395c1e8ff4a99225152387a1e60a4
4 %endif

```

The simpler construct in `rtems-tools-common-1.cfg` of:

```

1 %ifos win32 mingw ming32
2 SB_BUILD_ROOT_WAF=$SB_BUILD_ROOT$(echo %[_prefix] | cut -c 1-2)
3 %else
4 SB_BUILD_ROOT_WAF=$SB_BUILD_ROOT
5 %endif

```

is easier to manage as the `%ifos` logic can always return True however the `%else` path also need to be followed and this could break the logic in a configuration file. Yes, the example is not about sources or patches however it shows what could be used. I do not think creating a new variable such as ``%{download_only}`` and adding logic to the configuration file will help, for example:

```

1 %if %[_download_only] || %[_build_os] == freebsd || %[_build_os] == darwin
2 %patch add gcc foobar-bsd.patch
3 %else
4 %patch add gcc foobar-gnu.patch
5 %endif

```

We require the logic to follow the `%if` True path **and** the `%else` path.

Author: Chris Johns 2018-09-27T23:08:52.000Z

- **Description** changed

```

1 The RSB source only download is host specific. Configurations for_
  ↳ builds can restrict sources or patches by host to work around_
  ↳ specific host issues. Currently a source only download is host_
  ↳ specific because the host check is based on the host the RSB is being_
  ↳ run on.
2
3 The release process uses source only downloading to create the complete_
  ↳ set of sources in a release. This issue means some host specific_
  ↳ source may not be captured.
4
5 I am yet to figure how to resolve this issue because the download logic_
  ↳ is driven by the configuration scripts and this type of logic exists_
  ↳ in configuration files such as `rtems-gcc-7.3.0-newlib-
  ↳ d13c84eb07e35984bf7a974cd786a6cdac29e6b9.cfg`:
6 {{{
7 %if %[_build_os] == freebsd || %[_build_os] == darwin
8 %patch add gcc --rsb-file=freebsd-libgcc-sed-fix.patch -p0 https://gcc.

```

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```

↳gnu.org/bugzilla/attachment.cgi?id=41380
9 %hash sha256 freebsd-libgcc-sed-fix.patch_
↳8a11bd619c2e55466688e328da00b387d02395c1e8ff4a99225152387a1e60a4
10 %endif
11 }}}
12 - The simpler construct `rtems-tools-common-1.cfg` of:
13 + The simpler construct in `rtems-tools-common-1.cfg` of:
14 ?          +++
15
16 {{{
17 %ifos win32 mingw ming32
18 SB_BUILD_ROOT_WAF=$SB_BUILD_ROOT$(echo %[_prefix] | cut -c 1-2)
19 %else
20 SB_BUILD_ROOT_WAF=$SB_BUILD_ROOT
21 %endif
22 }}}
23 - is easier to manage as the `%ifos` logic can always return `True`_
↳however the `%else` patch also need to be followed and this could_
↳break the logic in a configuration file. Yes, the example is not_
↳about sources or patches however it shows what could be used.
24 ?
↳
          ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
25
26 + is easier to manage as the `%ifos` logic can always return `True`_
↳however the `%else` path also need to be followed and this could_
↳break the logic in a configuration file. Yes, the example is not_
↳about sources or patches however it shows what could be used.
27 ?
↳
          ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
28
29 - I do not think adding logic to the configuration file parsing will_
↳help, for example consider this case:
30 + I do not think creating a new variable such as `${download_only}` and_
↳adding logic to the configuration file will help, for example:
31 {{{
32 - %if %[_build_os] == freebsd || %[_build_os] == darwin
33 + %if %{download_only} || %[_build_os] == freebsd || %[_build_os] ==_
↳darwin
34 ?      ++++++
35
36 %patch add gcc foobar-bsd.patch
37 %else
38 %patch add gcc foobar-gnu.patch
39 %endif
40 }}}
41 - We require the logic to follow the `%if True` path and the `%else`_
↳path.
42 + We require the logic to follow the `%if True` path **and** the `_
↳%else` path.

```

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43 ? +++ +++

Author: Trac Migrate 2019-05-21T23:27:31.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"a74e43298c643979446b8163402a28a7a477c6e4/rtems-source-builder" a74e432/rtems-source-builder]:

```

1 sb: Add sb-get-sources to download all referenced source files.
2
3 - Downloads all files into a single directory
4 - Iterates over all supported hosts to get any host dependent source
5 no matter which host you run the command on.
6
7 Closes #3532

```

4.2.1.397 3747 - Address Cortex-M3 Errata 602117

Id	3747
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-05-13T13:23:15.000Z
Updated	2019-05-21T04:44:10.000Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3747
Merges	0

Original author: sebastian.huber

While testing on a NXP LPC1788 it found that this chip is affected by the Cortex-M3 Errata 602117. NXP didn't bother to document this in their errata sheet for the chip:

https://www.nxp.com/docs/en/errata/ES_LPC177X_8X.pdf

To avoid the issues, you have to compile everything with `-mfix-cortex-m3-ldrd`. This option is enabled by default, if you use `-mcpu=cortex-m3`.

I think we have to change our GCC multilibs to account for this errata. For example:

```

1 diff --git a/gcc/config/arm/t-rtems b/gcc/config/arm/t-rtems
2 index 026a5895662..e276b4f3e57 100644
3 --- a/gcc/config/arm/t-rtems
4 +++ b/gcc/config/arm/t-rtems

```

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```

5 @@ -1,7 +1,7 @@
6 # Custom RTEMS multilibs for ARM
7
8 -MULTILIB_OPTIONS = mbig-endian mthumb march=armv6-m/march=armv7-a/march=armv7-r/
9 ↪march=armv7-m/mcpu=cortex-m7 mfpv=neon/mfpv=vfp/mfpv=vfpv3-d16/mfpv=fpv4-sp-d16/
10 ↪mfpv=fpv5-d16 mfloat-abi=hard
11 -MULTILIB_DIRNAMES = eb thumb armv6-m armv7-a armv7-r armv7-m cortex-m7 neon vfp_
12 ↪vfpv3-d16 fpv4-sp-d16 fpv5-d16 hard
13 +MULTILIB_OPTIONS = mbig-endian mthumb march=armv6-m/march=armv7-a/march=armv7-r/
14 ↪mcpu=cortex-m3/mcpu=cortex-m4/mcpu=cortex-m7 mfpv=neon/mfpv=vfp/mfpv=vfpv3-d16/
15 ↪mfpv=fpv4-sp-d16/mfpv=fpv5-d16 mfloat-abi=hard
16 +MULTILIB_DIRNAMES = eb thumb armv6-m armv7-a armv7-r cortex-m3 cortex-m4 cortex-
17 ↪m7 neon vfp vfpv3-d16 fpv4-sp-d16 fpv5-d16 hard
18
19 # Enumeration of multilibs
20
21 @@ -16,7 +16,8 @@ MULTILIB_REQUIRED += mthumb/march=armv7-a/mfpv=neon/mfloat-
22 ↪abi=hard
23 MULTILIB_REQUIRED += mthumb/march=armv7-a
24 MULTILIB_REQUIRED += mthumb/march=armv7-r/mfpv=vfpv3-d16/mfloat-abi=hard
25 MULTILIB_REQUIRED += mthumb/march=armv7-r
26 -MULTILIB_REQUIRED += mthumb/march=armv7-m/mfpv=fpv4-sp-d16/mfloat-abi=hard
27 +MULTILIB_REQUIRED += mthumb/mcpu=cortex-m3
28 +MULTILIB_REQUIRED += mthumb/mcpu=cortex-m4
29 +MULTILIB_REQUIRED += mthumb/mcpu=cortex-m4/mfpv=fpv4-sp-d16/mfloat-abi=hard
30 MULTILIB_REQUIRED += mthumb/mcpu=cortex-m7/mfpv=fpv5-d16/mfloat-abi=hard
31 -MULTILIB_REQUIRED += mthumb/march=armv7-m
32 MULTILIB_REQUIRED += mthumb

```

Author: Trac Migrate 2019-05-14T06:56:12.000Z

Original author: sebastian.huber

In [changeset:"72271f6350ae32bd5cb40e0b78391375ef5b336d/rtems-source-builder" 72271f6/rtems-source-builder]:

```

1 5: Update GCC 7 baseline
2
3 Pick up ARM multilib changes to address Cortex-M3 Errata 602117.
4
5 Update #3747.

```

Author: Trac Migrate 2019-05-14T09:08:23.000Z

Original author: sebastian.huber

In [changeset:"b446457f1c0a159863e770458b1373604f7050fe/rtems" b446457/rtems]:

```

1 bsp/arm: Adjust machine flags for ARMv7-M
2
3 Update machine flags for Cortex-M3 and Cortex-M4 based BSPs to account
4 for Cortex-M3 Errata 602117 which required GCC multilib changes.
5
6 Update #3747.

```

Author: Trac Migrate 2019-05-15T05:21:31.000Z

Original author: sebastian.huber

In [changeset:"7f514405fe9aca8f84e004eb1c37551e812fcf01/rtems-docs" 7f51440/rtems-docs]:

```

1 cpu-supplement: Update ARM multilibs
2
3 Update #3747.

```

Author: Trac Migrate 2019-05-21T04:44:10.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

The GCC multilib changes are now in GCC 7, 8, 9 and trunk (10).

4.2.1.398 3746 - libdl test dl05.exe failing

Id	3746
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2019-05-13T00:17:57.000Z
Updated	2019-05-14T00:19:54.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3746
Merges	0

This test is failing because the second stage of the symbol loading does not check if a section referenced by a symbol has been loaded.

It is not clear yet if the lack of support in libdl for group sections is a factor.

Author: Trac Migrate 2019-05-13T22:57:17.000Z

- **Owner** set to Chris Johns <chrisj@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"74883be5d4b5fa166179d6003032f6eac2e0f544/rtems"74883be5/rtems]:

```
1 libdl: Fix loading symbol that reference unknown sections.
2
3 - Make the symbol parsing and loading stage match.
4 - Check for possible overflow of the tables when loading.
5
6 Closes #3746
```

Author: Trac Migrate 2019-05-14T00:19:54.000Z

In [changeset:"d0f627d89478c9d117aa677d3eafd5bd44754ca8/rtems"d0f627d/rtems]:

```
1 libdl: Fix size bug in loading symbols.
2
3 This was introduced in 74883be5d4b5fa166179d6003032f6eac2e0f544.
4
5 Updates #3746
```

4.2.1.399 3743 - RSB os and arch config logic is broken

Id	3743
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-05-06T23:13:46.000Z
Updated	2019-05-10T02:44:45.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3743
Merges	0

The config file processing of conditionals:

- %ifos
- %ifnos
- %ifarch

do not correctly process lists of arguments. The argument list is split in 2 with the first element correct handled and the remaining treated as a lump. The argument list needs to be split evenly.

Author: Trac Migrate 2019-05-10T02:44:45.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"0956a2c089faf2600047577bb153afcaaba22288/rtems-source-builder" 0956a2c/rtems-source-builder]:

```
1 sb/config: Fix os and arch conditional logic.
2
3 Correctly split the argument list and check each element.
4
5 Closes #3743
```

4.2.1.400 3725 - bsp/lpc24xx: Convert I2C driver to Linux API

Id	3725
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-03-12T14:59:01.000Z
Updated	2019-05-08T11:13:18.000Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3725
Merges	0

Original author: sebastian.huber

Author: Trac Migrate 2019-03-18T08:33:00.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"007d4e12977ca76d981368bd5e0303115f657946/rtems" 007d4e12/rtems]:

```
1 bsp/lpc24xx: Convert I2C driver to Linux API
2
3 Change license to BSD-2-Clause.
4
5 Close #3725.
```

Author: Trac Migrate 2019-03-18T08:54:24.000Z

Original author: sebastian.huber

In [changeset:"15f46702771dfebc3c7c2a1adefb25a7740ea9af/rtems-docs" 15f4670/rtems-docs]:

```
1 bsp-howto: Update I2C chapter
2
3 Update ##3725.
```

Author: Trac Migrate 2019-03-18T09:28:16.000Z

Original author: sebastian.huber

In [changeset:"808ef179842a8e4815f877e5e5d4705f9f14de59/rtems-docs" 808ef17/rtems-docs]:

```
1 user: Add basic lpc24xx description
2
3 Update #3724.
4 Update #3725.
```

Author: Trac Migrate 2019-05-08T11:13:18.000Z

Original author: sebastian.huber

In [changeset:"271b8a61c10c004178104c52cbc9e4e9ebd17ab3/rtems" 271b8a6/rtems]:

```
1 bsp/lpc24xx: Remove obsolete BSP optinons
2
3 Update #3725.
```

4.2.1.401 3742 - T_config conflicting type qualifiers for 'config'

Id	3742
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2019-05-04T02:20:37.000Z
Updated	2019-05-06T05:57:55.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::test, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3742
Merges	0

Running the rtems-bsp-builder on FreeBSD is give an error in ttest01 for bsps:

- arm/csb336

- arm/csb337
- arm/csb637
- arm/kit637_v6
- mips/csb350

The error being reported is:

```
1 error: testsuites/libtests/ttest01/init.c:146:23: error: conflicting type_
  ↳ qualifiers for 'config'
```

The builder command line is:

```
1 /opt/work/chris/rtems/rt/rtems-tools.git/tester/rtems-bsp-builder \\  
2 --rtems-tools=/opt/work/rtems/5 \\  
3 --rtems=/opt/work/chris/rtems/kernel/rtems.git \\  
4 --log=everything-tests \\  
5 --profile=everything \\  
6 --build=tests \\  
7 --jobs=7/6
```

A BSP configure command line is:

```
1 /opt/work/chris/rtems/kernel/rtems.git/configure \\  
2 --target=mips-rtems5 --enable-rtemsbsp=csb350 --prefix=/opt/rtems/5 \\  
3 --enable-tests --disable-smp
```

Author: Trac Migrate 2019-05-06T05:57:55.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"8bd4f61c30c04473fe54211a312c7b237b93c6d8/rtems" 8bd4f61c/rtems]:

```
1 bsps: Remove bogus config declaration  
2  
3 Replace it with a proper struct rtems_bsdnet_ifconfig forward  
4 declaration.  
5  
6 Close #3742.
```

4.2.1.402 3122 - Simplify and unify BSP_output_char

Id	3122
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-09-08T08:37:58.000Z
Updated	2019-04-12T12:38:25.000Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3122
Merges	0

Original author: sebastian.huber

The BSP_output_char should output a char and not mingle with high level processing, e.g. 'n' to 'rn' translation. Move this translation to rtems_putc(). Remove it from all the BSP_output_char implementations.

Author: Trac Migrate 2017-09-08T08:38:09.000Z

Original author: sebastian.huber

- **Status** changed from *assigned* to *accepted*

Author: Chris Johns 2017-09-10T20:36:44.000Z

Original author: sebastian.huber

Is this an internal RTEMS function?

Could this change any external code that may be using it?

What do users call to get the same thing as we currently have?

It is a good change, I am just considering the timing late in a release development cycle.

Author: Trac Migrate 2017-09-11T08:44:16.000Z

Original author: sebastian.huber

Replying to **Chris Johns**:

Is this an internal RTEMS function?

This is the function pointer used by rtems_putc() and printk().

Could this change any external code that may be using it?

What do users call to get the same thing as we currently

have? It is a good change, I am just considering the timing late in a release development cycle.

This is not an API change. Only the “n” to “rn” moves from the lowest level one step up to `rtems_putc()`.

Author: Trac Migrate 2017-09-11T08:45:15.000Z

Original author: sebastian.huber

See also:

<https://lists.rtems.org/pipermail/devel/2017-September/018948.html>

Author: Trac Migrate 2017-09-12T08:01:16.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *accepted* to *closed*

In [changeset:”1bc0ad2e12e9e523a9b9043ac47254a0597826bf/rtems”
1bc0ad2/rtems]:

```

1 Simplify and unify BSP_output_char
2
3 The BSP_output_char should output a char and not mingle with high level
4 processing, e.g. '\\n' to '\\r\\n' translation. Move this translation_
5 ↪ to
6 rtems_putc(). Remove it from all the BSP_output_char implementations.
7 Close #3122.
```

Author: Trac Migrate 2017-09-12T09:50:58.000Z

Original author: sebastian.huber

In [changeset:”2fc324608006d7c10ecfb5d73e4cd1a6554eaa7d/rtems”
2fc32460/rtems]:

```

1 serdbg: Fix warning
2
3 Update #3122.
```

Author: Trac Migrate 2017-09-19T05:22:01.000Z

Original author: sebastian.huber

In [changeset:”a029230aec45c60f7bea6f444161d8e02f47222b/rtems”
a029230a/rtems]:


```

1 Add "\\n" to "\\r\\n" translation to rtems_putc()
2
3 Update #3122.

```

Author: Trac Migrate 2017-09-28T11:22:08.000Z

Original author: sebastian.huber

In [changeset:"610ffd7a32f5dd03a42b6b505bfcca599d56f31f/rtems" 610ffd7/rtems]:

```

1 bsp/gen5200: Fix warning
2
3 Update #3122.

```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Trac Migrate 2019-04-12T12:38:25.000Z

Original author: sebastian.huber

In [changeset:"be50969881b97180bf4fc1e2975efd41169e08bb/rtems" be50969/rtems]:

```

1 bsp/motorola_powerpc: Fix debug output
2
3 Update #3122.

```

4.2.1.403 3733 - Add general reg support to libdebugger

Id	3733
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-04-05T06:13:28.000Z
Updated	2019-04-09T05:05:23.000Z
Milestone	5.1
Labels	cpukit::debugger, priority::normal, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3733
Merges	0

Testing master on a Zynq reports:

```
1 (gdb) target remote 10.10.5.45:1122
2 Remote debugging using 10.10.5.45:1122
3 Truncated register 19 in remote 'g' packet
```

It looks to me like gdb is now smart enough to know this ARM arch has a NEON and floating point registers:

```
1 (gdb) maint print registers
2 Name          Nr  Rel Offset      Size  Type
3 r0             0   0    0           4  uint32_t
4 r1             1   1    4           4  uint32_t
5 r2             2   2    8           4  uint32_t
6 r3             3   3   12           4  uint32_t
7 r4             4   4   16           4  uint32_t
8 r5             5   5   20           4  uint32_t
9 r6             6   6   24           4  uint32_t
10 r7            7   7   28           4  uint32_t
11 r8            8   8   32           4  uint32_t
12 r9            9   9   36           4  uint32_t
13 r10           10  10   40           4  uint32_t
14 r11           11  11   44           4  uint32_t
15 r12           12  12   48           4  uint32_t
16 sp            13  13   52           4  *1
17 lr            14  14   56           4  uint32_t
18 pc            15  15   60           4  *1
19 f0            16  16   64          12  _arm_ext
20 f1            17  17   76          12  _arm_ext
21 f2            18  18   88          12  _arm_ext
22 f3            19  19  100          12  _arm_ext
23 f4            20  20  112          12  _arm_ext
24 f5            21  21  124          12  _arm_ext
25 f6            22  22  136          12  _arm_ext
26 f7            23  23  148          12  _arm_ext
27 fps           24  24  160           4  uint32_t
28 cpsr          25  25  164           4  uint32_t
```

The target support in libdebugger is a simple array of 32bit ints. This needs to change to handle registers at various offsets. The lack of fp regs was a simplification at the time I first implement this server. Loos like I need to sort this out.

Author: Chris Johns 2019-04-06T00:39:37.000Z

- **Status** changed from *new* to *accepted*

I suspect the more recent gdb we are using is checking the g register data length and libdebugger was not returning the correct amount for the ARM processor.

Author: Chris Johns 2019-04-06T00:43:24.000Z

Adding support for offsets to the ARM backend has things working. The following is with master RSB, kernel and libbsd:

```

1 $ /opt/work/rtems/5/bin/arm-rtems5-gdb ./build/arm-rtems5-xilinx_zynq_
  ↪zedboard-default/debugger01.exe
2 GNU gdb (GDB) 8.2.1
3 Copyright (C) 2018 Free Software Foundation, Inc.
4 License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.
  ↪html>
5 This is free software: you are free to change and redistribute it.
6 There is NO WARRANTY, to the extent permitted by law.
7 Type "show copying" and "show warranty" for details.
8 This GDB was configured as "--host=x86_64-freebsd11.2 --target=arm-
  ↪rtems5".
9 Type "show configuration" for configuration details.
10 For bug reporting instructions, please see:
11 <http://www.gnu.org/software/gdb/bugs/>.
12 Find the GDB manual and other documentation resources online at:
13 <http://www.gnu.org/software/gdb/documentation/>.
14 For help, type "help".
15 Type "apropos word" to search for commands related to "word"...
16 Reading symbols from ./build/arm-rtems5-xilinx_zynq_zedboard-default/
  ↪debugger01.exe...done.
17 (gdb) target remote 10.10.5.45:1122
18 Remote debugging using 10.10.5.45:1122
19 0x00000030 in ?? ()
20 (gdb) info threads
21 Id   Target Id
22 * 1   Thread 1.167837697 (UI1 (0a010001), priority(c:508 r:508),
  ↪stack(s: 32768 a:0x44dda0), state(TIME:SUSP:IS)) 0x00000030 in ?? ()
23 2     Thread 1.167837698 (SHLL (0a010002), priority(c: 2 r: 2),
  ↪stack(s: 32768 a:0x456590), state(SEM:SUSP)) arm_interrupt_
  ↪disable () at /opt/work/chris/rtems/kernel/rtems.git/cpukit/score/cpu/
  ↪arm/include/rtems/score/cpu.h:299
24 (gdb) info reg
25 r0          0x2c7184          2912644
26 r1          0x2c7184          2912644
27 r2          0x2c7184          2912644
28 r3          0x2c7184          2912644
29 r4          0x30be70          3194480
30 r5          0x40e660          4253280
31 r6          0x7184be70        1904524912
32 r7          0x7184002c        1904476204
33 r8          0x7184002c        1904476204
34 r9          0x7184002c        1904476204
35 r10         0xbe70002c        3195011116
36 r11         0xea680030        3932684336
37 r12         0xbe700040        3195011136
38 sp          0xc5000030        0xc5000030
39 lr          0xbe6c0044        3194748996

```

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```

40 pc          0x30          0x30
41 cpsr        0x0          0
42 (gdb) thread 2
43 [Switching to thread 2 (Thread 1.167837698)]
44 #0  arm_interrupt_disable () at /opt/work/chris/rtems/kernel/rtems.git/
↳ cpukit/score/cpu/arm/include/rtems/score/cpu.h:299
45 299      __asm__ volatile (
46 (gdb) bt
47 #0  arm_interrupt_disable () at /opt/work/chris/rtems/kernel/rtems.git/
↳ cpukit/score/cpu/arm/include/rtems/score/cpu.h:299
48 #1  _Thread_Do_dispatch (cpu_self=<optimized out>, level=<optimized out>
↳ ) at /opt/work/chris/rtems/kernel/rtems.git/c/src/../../cpukit/score/
↳ src/threaddispatch.c:309
49 #2  0x0022d09a in _Semaphore_Wait_timed_ticks (_sem=_sem@entry=0x455e38,
↳ ticks=ticks@entry=0) at /opt/work/chris/rtems/kernel/rtems.git/c/src/
↳ ../../cpukit/score/src/semaphore.c:100
50 #3  0x002254fa in rtems_binary_semaphore_wait_timed_ticks (ticks=0,
↳ binary_semaphore=0x455e38) at /opt/work/chris/rtems/kernel/rtems.git/
↳ cpukit/include/rtems/thread.h:263
51 #4  fillBufferQueue (tty=0x455da8) at /opt/work/chris/rtems/kernel/
↳ rtems.git/c/src/../../cpukit/libcsupport/src/termios.c:1509
52 #5  rtems_termios_read_tty (tty=tty@entry=0x455da8,
↳ buffer=buffer@entry=0x44c94b <__sf+67> "\\r", initial_count=initial_
↳ count@entry=1) at /opt/work/chris/rtems/kernel/rtems.git/c/src/../../
↳ cpukit/libcsupport/src/termios.c:1538
53 #6  0x0022562c in rtems_termios_imfs_read (iop=0x41aec8 <rtems_libio_
↳ iops>, buffer=0x44c94b <__sf+67>, count=1) at /opt/work/chris/rtems/
↳ kernel/rtems.git/c/src/../../cpukit/libcsupport/src/termios.c:2052
54 #7  0x00223be8 in read (fd=<optimized out>, buffer=<optimized out>,
↳ count=<optimized out>) at /opt/work/chris/rtems/kernel/rtems.git/c/
↳ src/../../cpukit/libcsupport/src/read.c:44
55 #8  0x00241c12 in __sread (ptr=<optimized out>, cookie=0x44c908 <__sf>,
↳ buf=<optimized out>, n=<optimized out>) at ../../../../../../
↳ gcc-7.4.0/newlib/libc/stdio/stdio.c:47
56 #9  0x00241782 in __srefill_r (ptr=ptr@entry=0x40ed18 <_RTEMS_tasks_
↳ Objects+1720>, fp=fp@entry=0x44c908 <__sf>) at ../../../../../../
↳ ./gcc-7.4.0/newlib/libc/stdio/refill.c:117
57 #10 0x0024188c in __srget_r (ptr=ptr@entry=0x40ed18 <_RTEMS_tasks_
↳ Objects+1720>, fp=fp@entry=0x44c908 <__sf>) at ../../../../../../
↳ ./gcc-7.4.0/newlib/libc/stdio/rget.c:42
58 #11 0x0023abfc in fgetc (fp=fp@entry=0x44c908 <__sf>) at ../../../../../../
↳ gcc-7.4.0/newlib/libc/stdio/fgetc.c:110
59 #12 0x00232858 in rtems_shell_getchar (in=in@entry=0x44c908 <__sf>) at /
↳ opt/work/chris/rtems/kernel/rtems.git/c/src/../../cpukit/libmisc/
↳ shell/shell_getchar.c:123
60 #13 0x00231704 in rtems_shell_line_editor (size=128, out=0x44c988 <__
↳ sf+128>, in=0x44c908 <__sf>, prompt=<optimized out>, count=<optimized_
↳ out>, cmds=0x45e360) at /opt/work/chris/rtems/kernel/rtems.git/c/src/
↳ ../../cpukit/libmisc/shell/shell.c:225

```

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```

61 #14 rtems_shell_main_loop (shell_env_arg=<optimized out>) at /opt/work/
    ↪ chris/rtems/kernel/rtems.git/c/src/../../cpukit/libmisc/shell/shell.
    ↪ c:880
62 #15 0x0023255e in rtems_shell_task (task_argument=<optimized out>) at /
    ↪ opt/work/chris/rtems/kernel/rtems.git/c/src/../../cpukit/libmisc/
    ↪ shell/shell.c:679
63 #16 0x0022ad3a in _Thread_Handler () at /opt/work/chris/rtems/kernel/
    ↪ rtems.git/c/src/../../cpukit/score/src/threadhandler.c:135
64 #17 0x0022abbc in _Thread_Do_dispatch (cpu_self=<optimized out>, level=
    ↪ <optimized out>) at /opt/work/chris/rtems/kernel/rtems.git/c/src/../../
    ↪ cpukit/score/src/threaddispatch.c:299
65 #18 0x00000000 in ?? ()
66 Backtrace stopped: previous frame identical to this frame (corrupt_
    ↪ stack?)
67 (gdb)

```

Author: Trac Migrate 2019-04-09T05:05:23.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"2c09b71faf4c476cf76476dc5926f0095eb6fdcd/rtems" 2c09b71/rtems]:

```

1 libdebugger: Use an offset table to format GDB `g` packets.
2
3 Adding support for a register offset table lets FPU registers
4 be supported if added to the backend.
5
6 Closes #3733.

```

4.2.1.404 3728 - Set small data section to max size for mvme5500 and motorola_powerpc BSPs

Id	3728
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-03-29T22:38:50.000Z
Updated	2019-04-01T03:24:56.000Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3728
Merges	0

These are large memory targets that can support libdl. Make the small data memory the maximum size.

Author: Trac Migrate 2019-04-01T03:24:56.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"294c6f46a627b06409ee469f4d3a472086a2d76f/rtems" 294c6f4/rtems]:

```
1 Set the small data section size to max. for mvme5500 and mvme2100 BSPs
2
3 Closes #3728
```

4.2.1.405 3724 - bsp/lpc24xx: Convert SSP driver to Linux API

Id	3724
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2019-03-12T14:58:39.000Z
Updated	2019-03-18T09:28:16.000Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3724
Merges	0

Original author: sebastian.huber

Author: Trac Migrate 2019-03-12T15:00:06.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1400210989e0bf15672e5bd562321ba2a37f5672/rtems" 1400210/rtems]:

```
1 bsp/lpc24xx: Convert SSP driver to Linux API
2
3 Use interrupts instead of polled or DMA driven mode. Change license to
4 BSD-2-Clause.
5
6 Close #3724.
```

Author: Trac Migrate 2019-03-18T08:54:22.000Z

Original author: sebastian.huber

In [changeset:"4480a83312d9d4a8b023a9d189d7d633a31e167e/rtems-docs" 4480a83/rtems-docs]:

```
1 bsp-howto: Update SPI chapter
2
3 Update #3724.
```

Author: Trac Migrate 2019-03-18T09:28:16.000Z

Original author: sebastian.huber

In [changeset:"808ef179842a8e4815f877e5e5d4705f9f14de59/rtems-docs" 808ef17/rtems-docs]:

```
1 user: Add basic lpc24xx description
2
3 Update #3724.
4 Update #3725.
```

4.2.1.406 3454 - Tracing Framework Documentation in User Manual

Id	3454
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-06-14T11:19:36.000Z
Updated	2019-02-20T09:54:08.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3454
Merges	0

Original author: VidushiVashishth

- 1) Write up a new chapter in the user manual regarding the existing tracing framework in RTEMS. Include a description of the components of the tracing framework and the various techniques used to generate traces currently. Add explanatory demonstrations and samples.
- 2) Expand the chapter to include CTF generation (currently under development) as it evolves.

Author: Trac Migrate 2018-06-18T05:31:43.000Z

Original author: VidushiVashishth

In [changeset:"8f4f80d437c84ac8b4a0194a868ff83baf394462/rtems-docs" 8f4f80d/rtems-docs]:

```

1 Adding Trace Documentation
2
3 - Updates #3454
4 - This commit adds Tracing Framework Chapter in the RTEMS User Manual
5 - It comprises of subchapters on RTEMS Trace Linker, Capture Engine,
  ↪ Trace
6 generation techniques explaining trace generation using Trace Buffering
  ↪ and
7 Printk generators and sample demonstrations.

```

Author: Trac Migrate 2019-02-20T09:54:08.000Z

Original author: VidushiVashishth

- **Milestone** set to %”5.1”
- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

4.2.1.407 3507 - Add flexible per-CPU data

Id	3507
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-08-28T06:06:30.000Z
Updated	2019-02-19T08:18:30.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3507
Merges	0

Original author: sebastian.huber

Add means to declare, define and get custom per-CPU data. The API should cover the APIs defined by the Linux <linux/percpu.h> and FreeBSD <sys/pcpu.h> header files.

Author: Trac Migrate 2018-09-10T09:37:07.000Z

Original author: sebastian.huber

In [changeset:”cfc4231d8fe1056fa501508a929c8ccaa1dd11be/rtems”
cfc4231d/rtems]:

```

1 score: Add flexible per-CPU data
2
3 Update #3507.

```


Author: Trac Migrate 2018-09-10T09:38:06.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d90c8137a88f9a456b711a741b88e5c6ef5735d8/rtems-docs"d90c813/rtems-docs]:

```
1 c-user: Mention per-processor data
2
3 Close #3507.
```

Author: Trac Migrate 2018-09-10T10:03:36.000Z

Original author: sebastian.huber

In [changeset:"1fe1b820de02c274c2b2b3431340152734ee9fb6/rtems"1fe1b820/rtems]:

```
1 score: Fix PER_CPU_DATA_GET_BY_OFFSET()
2
3 Add uniprocessor version for PER_CPU_DATA_GET_BY_OFFSET(). Fix warnings
4 in uniprocessor configurations.
5
6 Update #3507.
```

Author: Trac Migrate 2018-09-17T06:58:44.000Z

Original author: sebastian.huber

In [changeset:"aaa6653b726dcaa8916514c18a576079e62fe5d1/rtems"aaa6653/rtems]:

```
1 score: Fix PER_CPU_DATA_ITEM_DECLARE()
2
3 Fix PER_CPU_DATA_ITEM_DECLARE() for targets with a small-data area.
4
5 Update #3507.
```

Author: Trac Migrate 2018-09-19T09:58:17.000Z

Original author: sebastian.huber

In [changeset:"776464aad46cd317b9707870acc5f6be5531e15a/rtems"776464a/rtems]:

```
1 score: Allocate per-CPU data only if necessary
2
3 The _Workspace_Allocate_aligned() would returns a non-NULL pointer for a
4 zero size allocation request if there is enough memory available. This
5 conflicts with the size estimate of zero in
6 _Workspace_Space_for_per_CPU_data() if the per-CPU data set is empty.
7
8 Update #3507.
```

Author: Trac Migrate 2018-12-19T08:50:59.000Z

Original author: sebastian.huber

In [changeset:"7c19e50bdd3b6ae234b171992f2e109d4f804cda/rtems" 7c19e50/rtems]:

```
1 score: Fix per-CPU data allocation
2
3 Allocate the per-CPU data for secondary processors directly from the
4 heap areas before heap initialization and not via
5 _Workspace_Allocate_aligned(). This avoids dependency on the workspace
6 allocator. It fixes also a problem on some platforms (e.g. QorIQ) where
7 at this early point in the system initialization the top of the RAM is
8 used by low-level startup code on secondary processors (boot pages).
9
10 Update #3507.
```

Author: Trac Migrate 2019-02-19T08:18:30.000Z

Original author: sebastian.huber

In [changeset:"789b0caad7a2b715398927491b9e70bda718c987/rtems-docs" 789b0ca/rtems-docs]:

```
1 c-user: INTERNAL_ERROR_NO_MEMORY_FOR_PER_CPU_DATA
2
3 Update #3507.
```

4.2.1.408 3334 - deadlock in _once()

Id	3334
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-03-13T13:17:56.000Z
Updated	2019-02-18T07:34:12.000Z
Milestone	5.1
Labels	api::posix, priority::normal, resolution::fixed, tickettype::defect, version::4.11, version::5, version::6
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3334
Merges	0

Original author: stavros.passas

RTEMS threads getting locked up when using certain c++ functionality. Issue happens for example when `std::future` is combined with `std::async`.

Investigating deeper, seems like this happens if `std::async` executes before `std::future` gets scheduled to run. Both of these create a `pthread_once` instance.

`_once()` uses a common semaphore for all calls, thus the first function (`async.get` usually) gets the lock, calls its “init” function (which blocks until the second function has completed. After this, `std::future` also uses `pthread_once` to execute, but because the lock is already taken, it also blocks, causing a deadlock.

Attached you can find a test application that reproduces the deadlock.

- [3334-Fix-pthread_once-deadlock.patch](#)
- [Add-test-executing-interlocking-pthread_once.patch](#)

Author: Trac Migrate 2018-03-13T13:19:22.000Z

Original author: stavros.passas

- **Attachment** [Add-test-executing-interlocking-pthread_once.patch](#) added

Test Application

Author: Trac Migrate 2018-03-13T13:22:26.000Z

Original author: stavros.passas

Copying the suggestion from Sebastian, (from the mailing list) about this issue:

“Please open a ticket and provide a test case for the RTEMS test suite. Maybe we have to use dedicated mutexes for each `pthread_once_t` object. This is what Linux and FreeBSD do. This would require a Newlib update.”

Author: Trac Migrate 2018-03-13T13:28:56.000Z

Original author: stavros.passas

- **Attachment** 3334-Fix-pthread_once-deadlock.patch added

Proposed fix

Author: Trac Migrate 2018-03-13T13:34:02.000Z

Original author: stavros.passas

I agree with Sebastian, that using one dedicated mutex for each pthread_once_t instance would be a longer term and elegant solution, but it would also add overhead for each pthread_t instance.

I am adding a different proposed solution, which doesn't require newlib changes (and increasing the pthread_t size):

The _once implementation uses a single mutex. Currently this mutex protects the whole function, while I believe we need to protect reads/writes to the once_state variable only. Concurrent tasks finding the state on RUNNING, could just yield until the state becomes ONCE_STATE_COMPLETE.

Author: Trac Migrate 2018-03-13T14:12:26.000Z

Original author: stavros.passas

- **Milestone** changed from %"4.11.4" to %"5.1"

Please send patches to the mailing list.

The yield loop may fail if thread priorities come into play. It should be replaced with a condition variable. So, for the once implementation we need a mutex and a condition variable (#include <rtems/thread.h>). There is currently no condition variable with API mutex support. We need protection from asynchronous deletion. Maybe use _Thread_Set_life_protection() directly in _Once().

If we want to back port this fix to RTEMS 4.11, then we have to use <sys/lock.h> instead of <rtems/thread.h>.

Author: Chris Johns 2018-10-14T01:12:03.000Z

Original author: stavros.passas

What is happening with this ticket?

Author: Chris Johns 2018-10-14T01:13:12.000Z

Original author: stavros.passas

- **Version** changed from ~"4.11" to ~"5"

Author: Chris Johns 2018-10-14T20:27:03.000Z

Original author: stavros.passas

- **Milestone** changed from %”5.1” to %”Indefinite”
- **Status** changed from *new* to *assigned*
- **Version** changed from ~”5” to ~”6”

Author: Trac Migrate 2018-10-15T05:05:17.000Z

Original author: stavros.passas

- **Owner** set to sebastian.huber

Author: Trac Migrate 2019-02-12T12:20:52.000Z

Original author: stavros.passas

- **Milestone** changed from %”Indefinite” to %”5.1”
- **Status** changed from *assigned* to *accepted*
- **Version** changed from ~”6” to ~”5”

Author: Trac Migrate 2019-02-18T06:26:41.000Z

Original author: stavros.passas

- **Resolution** set to ~”fixed”
- **Status** changed from *accepted* to *closed*

In [changeset:”e4ad14cc789090290550e3aa9640e4969037e8b7/rtems”
e4ad14cc/rtems]:

```
1 score: Avoid some deadlocks in _Once()
2
3 Recursive usage of the same pthread_once_t results now in a deadlock.
4 Previously, an error of EINVAL was returned. This usage scenario is
5 invalid according to the POSIX pthread_once() specification.
6
7 Close #3334.
```

Author: Trac Migrate 2019-02-18T07:34:12.000Z

Original author: stavros.passas

In [changeset:”3d65f457eacbdebe6b67bab05d005e873148f0a/rtems”
3d65f45/rtems]:

```
1 psxtests/psxonce01: Fix typo
2
3 Update #3334.
```

4.2.1.409 3692 - libdl does not honour write unlock/lock for sections

Id	3692
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-02-14T02:59:42.000Z
Updated	2019-02-14T23:06:22.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3692
Merges	0

The allocator does no honour write unlock and lock for read-only sections as it should. This can used to write protect executable memory.

Author: Trac Migrate 2019-02-14T23:06:22.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"e309f7769fab9eed69079445a3f7f2354ea993c3/rtems" e309f77/rtems]:

```

1 libdl: Allocator does not unlock and lock memory on loading.
2
3 Close #3692
```

4.2.1.410 3298 - dlerror non-conformance

Id	3298
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2018-02-08T03:37:08.000Z
Updated	2019-02-08T23:08:07.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3298
Merges	0

This is a port of the 4.11 patches from #2747 to master. Please refer to that ticket for details.

Author: Trac Migrate 2019-02-08T23:08:07.000Z

- **Resolution** set to ~"fixed"

- **Status** changed from *assigned* to *closed*

In [changeset:"e2f13430be3c74fade1319b97f6d21641152c732/rtems" e2f13430/rtems]:

```
1 libdl: Fix dlerror non-conformance
2
3 Closes #3298
```

4.2.1.411 3684 - rtems_print_buffer is broken

Id	3684
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2019-01-29T03:37:14.000Z
Updated	2019-02-08T23:08:03.000Z
Milestone	5.1
Labels	library, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3684
Merges	0

Consider this call:

```
1 #include <rtems/dumpbuf.h>
2 rtems_print_buffer ((const unsigned char *) "\\x12\\x23\\x56\\x78", 4);
```

On psim you get:

```
1 1f 2f 5f 7f | .#Vx |
```

Author: Chris Johns 2019-01-29T03:39:55.000Z

The line in Dump_Line:

```
1 rtems_putc(hexlist[0xf]);
```

should be:

```
1 rtems_putc(hexlist[c & 0xf]);
```

Author: Trac Migrate 2019-01-29T09:10:42.000Z

Yes, looks good.

Author: Chris Johns 2019-02-02T04:21:28.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2019-02-08T23:08:03.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"2d8a9c794cb108149b6187afd2bdf606f88cb535/rtems" 2d8a9c79/rtems]:

```
1 libmisc: Fix rtems_print_buffer
2
3 Closes #3684
```

4.2.1.412 3460 - GDB 8 SIS LEON2 LEON3 Patches

Id	3460
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2018-06-19T00:18:39.000Z
Updated	2019-02-08T09:23:44.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::gdb, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3460
Merges	0

Jiri patch for gdb-8.0.1.

- [gdb-8.0.1-sis-leon2-leon3.diff](#)
- [gdb-8.0.1-sis-leon3-smp.diff](#)
- [gdb-8.2.1-disable-sis.patch](#)
- [gdb-8.2.1-riscv-config.patch](#)
- [gdb-8.2.1-sis-2.11.patch.bz2](#)
- [gdb-8.2.1-sis-2.12.patch](#)
- [gdb-8.2.1-sis-2.13.patch](#)

Author: Chris Johns 2018-06-19T00:19:51.000Z

- **Attachment** [gdb-8.0.1-sis-leon2-leon3.diff](#) added

From <http://gaisler.se/gdb/gdb-8.0.1-sis-leon2-leon3.diff>, see <https://lists.rtems.org/pipermail/users/2018-June/032375.html>

Author: Trac Migrate 2018-06-19T23:38:28.000Z

In [changeset:"c5715172d9b6f6c1fcb5b9ddca6962492380fe86/rtems-source-builder" c571517/rtems-source-builder]:

```
1 gdb: Add a gdb-common configuration and have gdb-7-1 include it.
2
3 Updates #3460
```

Author: Trac Migrate 2018-06-19T23:38:37.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"ea6a04262ffdf66d74b2f9d5b256a3e3da2e7ac4/rtems-source-builder" ea6a042/rtems-source-builder]:

```
1 gdb: Download the gdb-8.0.1-sis-leon2-leon3 patch from an RTEMS ticket
2
3 Closes #3460
```

Author: Trac Migrate 2018-12-17T06:20:50.000Z

- **Attachment** [gdb-8.0.1-sis-leon3-smp.diff](#) added

Author: Trac Migrate 2018-12-17T06:21:14.000Z

- **Milestone** set to %"5.1"
- **Summary** changed from *GDB 8 SIS LEON2 LEON3 Patch* to *GDB 8 SIS LEON2 LEON3 Patches*
- **Version** set to ~"5"

Author: Trac Migrate 2018-12-17T07:17:39.000Z

In [changeset:"96673d751ab488d5d892ae67c1842aef9d5c068b/rtems-source-builder" 96673d7/rtems-source-builder]:

```
1 5: Add SMP support to SIS
2
3 Update #3460.
```

Author: Trac Migrate 2018-12-17T07:21:41.000Z

In [changeset:"820eba4546a21bf45d01f7742a59e5ad6da2a119/rtems-tools" 820eba4/rtems-tools]:

```

1 tester: Run leon3-sis with four processors
2
3 Update #3460.

```

Author: Chris Johns 2019-02-05T04:19:58.000Z

- **Attachment** [gdb-8.2.1-sis-2.11.patch.bz2](#) added
Jiri's SIS patch version 2.11

Author: Chris Johns 2019-02-05T04:20:30.000Z

- **Attachment** [gdb-8.2.1-riscv-config.patch](#) added
Jiri's RISC-V configuration patch.

Author: Trac Migrate 2019-02-08T09:21:36.000Z

- **Attachment** [gdb-8.2.1-sis-2.12.patch](#) added

Author: Trac Migrate 2019-02-08T09:23:44.000Z

In [changeset:"ee40e0bf0bf233902491ee3de1c56d2a93e2a76d/rtems-source-builder" ee40e0b/rtems-source-builder]:

```

1 5: Add GDB SIS patch
2
3 Update #3460.

```

Author: Trac Migrate 2019-03-03T08:54:25.000Z

- **Attachment** [gdb-8.2.1-sis-2.13.patch](#) added
sis 2.13, fix flushing of stdout in gdb/run

Author: Trac Migrate 2019-08-08T20:17:36.000Z

- **Attachment** [gdb-8.2.1-disable-sis.patch](#) added
Disable built-in sis in gdb 8.2.1, in favor of the stand-alone one.

4.2.1.413 3677 - ARM BSP contains ARM code in THUMB only build

Id	3677
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2019-01-21T00:41:14.000Z
Updated	2019-01-29T08:04:26.000Z
Milestone	5.1
Labels	priority::normal, resolution::wontfix, tickettype::defect, tool::gcc, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3677
Merges	0

The xilinx_zynq_a9_qemu BSP contains a memcpy that is ARM mode code and not THUMB. This can be seen with hello.exe and vlan01.exe in the libbsd examples.

The script run with the command that follows shows there is a single ARM function in the executable. The python script is:

```
1 from __future__ import print_function
2 import sys
3 for line in sys.stdin:
4     ls = line.split()
5     if len(ls) == 8 and ls[0][-1] == ':' and ls[3] == 'FUNC':
6         addr = int(ls[1], 16)
7         if addr & 1 == 0:
8             print(ls[7])
```

Command with output:

```
1 $ arm-rtems5-readelf -a `find . -name hello.exe` | python ./arm-thumb.py
2 memcpy
```

The presence of this single function makes me wonder why and if something is wrong in the building of the memcpy function. Examination with rtems-exeinfo shows the code is built by GNU AS from the file memcpy-armv7a.S while other asm files are not generating ARM code. The section of the output from:

```
1 $ rtems-exeinfo -a `find . -name hello.exe`
```

is:

```
1 GNU AS 2.31.1: 14 objects
2 | arm_exc_interrupt.S
3 | armv4-exception-default.S
4 | bpabi.S
5 | bpabi.S
6 | bsp-start-memcpy.S
7 | cpu_asm.S
```

(continues on next page)

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```

8 | lib1funcs.S
9 | lib1funcs.S
10 | lib1funcs.S
11 | memchr.S
12 | memcpy-armv7a.S
13 | start.S
14 | strcmp-armv7.S
15 | strlen-armv7.S

```

GNU LD is correctly managing the interworking and the code runs however is this behavior expected and understood? Note, the existence of this code breaks libdl's loading of dhcpd.c as section .rel.text.dhcpd_handle_hwaddr contains a R_ARM_THM_JUMP24 relocation record which requires a veneer in large memory application as well as bl to blx support. This support could be added but I am not currently in favor of having this support for something that should not happen.

Author: Chris Johns 2019-01-21T00:44:30.000Z

Hmmmm <https://github.com/RTEMS/sourceware-mirror-newlib-cygwin/blob/master/newlib/libc/machine/arm/memcpy-armv7a.S#L47>

Author: Trac Migrate 2019-01-21T06:17:19.000Z

The interworking support is mandatory in ARM EABI. The memcpy() code is from ARM, I guess they know what they are doing.

Author: Trac Migrate 2019-01-29T08:04:26.000Z

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

4.2.1.414 3672 - No i386 BSP can link all tests after cache manager changes

Id	3672
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2019-01-10T00:22:19.000Z
Updated	2019-01-29T08:03:10.000Z
Milestone	5.1
Labels	arch:i386, priority::high, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3672
Merges	0

```

/data/home/joel/rtems-work/tools/5/bin/./lib/gcc/i386-rtems5/7.4.0/././././i386-
rtems5/bin/ld:      ./././lib/libbsp/i386/pc386/librtemsbsp.a(cache.o):      in func-

```

tion ``rtems_cache_invalidate_entire_instruction':` /home/joel/rtems-work/rtems-testing/rtems/build-i386-pc486-rtems/i386-rtems5/c/pc486/lib/libbsp/i386/pc386/../../../../rtems, undefined reference to ``_CPU_cache_invalidate_entire_instruction'`

Author: Trac Migrate 2019-01-10T06:39:04.000Z

- **Status** changed from *assigned* to *new*

I think this is due to this typo fix here:

<https://git.rtems.org/rtems/commit/?id=750e79519a8061fecbf23ea7c96a7767b1099267>

Could someone with i386 knowledge please resolve this ticket.

Author: Trac Migrate 2019-01-29T08:03:10.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Fixed by [12dfe5dcb1412db47c51d4736551d81a7c77d064/rtems].

4.2.1.415 3082 - Add 64-bit support for PowerPC

Id	3082
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-07-24T07:15:45.000Z
Updated	2019-01-25T14:40:29.000Z
Milestone	5.1
Labels	arch:powerpc, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3082
Merges	0

Original author: sebastian.huber

The QorIQ chips have more than 4GiB of memory available.

Author: Trac Migrate 2017-07-28T08:25:37.000Z

Original author: sebastian.huber

GCC support will be available with GCC 7.2:

<https://gcc.gnu.org/viewcvs/gcc?view=revision&revision=250654>

Author: Trac Migrate 2017-07-28T08:49:28.000Z

Original author: sebastian.huber

In [changeset:"b615e9b3eee2608ec9982c16f9cf4551124f4c4e/rtems" b615e9b/rtems]:

```
1 bsp/qorIQ: Simplify initialization
2
3 Do not flush/invalidate the caches. Instead enable the cache during the
4 low-level initialization and perform an explicit cache flush for the
5 read-only and fast-text sections.
6
7 Update #3082.
8 Update #3085.
```

Author: Trac Migrate 2017-07-28T08:49:42.000Z

Original author: sebastian.huber

In [changeset:"0db7c550aca1520899702cd170738481096af667/rtems" 0db7c55/rtems]:

```
1 bsp/qorIQ: New BSP names
2
3 Due to the FDT support we can now reduce the BSP variants. Use the
4 processor core to define the BSP variants.
5
6 Update #3082.
7 Update #3085.
```

Author: Trac Migrate 2017-07-28T11:45:15.000Z

Original author: sebastian.huber

In [changeset:"1ceafe5f12744e4b4424e68c70e6a5379c481e7e/rtems-source-builder" 1ceafe5/rtems-source-builder]:

```
1 4.12: Update to Binutils 2.29
2
3 Update #3082.
```

Author: Trac Migrate 2017-07-28T13:40:58.000Z

Original author: sebastian.huber

In [changeset:"8966e8a3a07d341adf1c539e985c2c82202f6c96/rtems" 8966e8a/rtems]:

```
1 bsp/qorIQ: Fix pre-processor expansion
2
3 Update #3082.
4 Update #3085.
```

Author: Trac Migrate 2017-07-31T12:46:02.000Z

Original author: sebastian.huber

In [changeset:"a597984b991a000bbd9aa9b3fe1b7c3365cc3c50/rtems"
a597984/rtems]:

```
1 powerpc: Add register defines
2
3 Update #3082.
4 Update #3085.
```

Author: Trac Migrate 2017-07-31T12:46:18.000Z

Original author: sebastian.huber

In [changeset:"65ee42ce8eb023c3459b01a21ff1192192d743c5/rtems"
65ee42c/rtems]:

```
1 bsp/qoriq: Simplify fatal exceptions
2
3 Avoid use of small-data area, since it is not supported in the ELFv2 ABI
4 by GCC.
5
6 Update #3082.
```

Author: Trac Migrate 2017-07-31T12:46:33.000Z

Original author: sebastian.huber

In [changeset:"b7be94390bf08fba4a948e1e721aa191375fe67/rtems"
b7be9439/rtems]:

```
1 bsps/powerpc: Do not set output format and arch
2
3 There is no need to explicitly set the output format and architecture in
4 the linker script. This enables the usage of this linker script with
5 the ELFv2 ABI (64-bit).
6
7 Update #3082.
```

Author: Trac Migrate 2017-08-01T09:45:58.000Z

Original author: sebastian.huber

In [changeset:"23cb9afef6352a927ee1f797e21a69a281bf8619/rtems"
23cb9af/rtems]:

```

1 bsp/powerpc: Rename ppc_exc_wrap_async_normal
2
3 Rename ppc_exc_wrap_async_normal to ppc_exc_interrupt to avoid a bit of
4 obfuscation.
5
6 Update #3082.

```

Author: Trac Migrate 2017-08-01T09:46:11.000Z

Original author: sebastian.huber

In [changeset:"a8694035ae45870956891d64e369f7eae2f3e78/rtems" a8694035/rtems]:

```

1 bsp/powerpc: Add PPC_EXC_INTERRUPT_FRAME_SIZE
2
3 Use a specific define for the interrupt exception frame size.
4
5 Update #3082.

```

Author: Trac Migrate 2017-08-22T14:49:44.000Z

Original author: sebastian.huber

In [changeset:"7e3ff84526fba6fa63845a8cd725e570b921c96b/rtems-source-builder" 7e3ff84/rtems-source-builder]:

```

1 4.12: Fix 64-bit PowerPC support of GCC 7.2
2
3 Update #3082.

```

Author: Trac Migrate 2017-08-22T14:51:08.000Z

Original author: sebastian.huber

In [changeset:"279c54063ec544d566647412558c539064ead953/rtems" 279c540/rtems]:

```

1 score: Fix format specifier
2
3 Update #3082.

```

Author: Trac Migrate 2017-08-22T14:51:20.000Z

Original author: sebastian.huber

In [changeset:"e062741da604811cbf0a1e5e73a0775daf155e82/rtems" e062741d/rtems]:


```

1 dev/i2c: Fix integer type
2
3 Update #3082.

```

Author: Trac Migrate 2017-08-22T14:51:32.000Z

Original author: sebastian.huber

In [changeset:"93934f886f919d5e6fcc33cf2fab2f36cd9e3d66/rtems" 93934f88/rtems]:

```

1 heap: Fix integer types
2
3 Update #3082.

```

Author: Trac Migrate 2017-08-22T14:51:44.000Z

Original author: sebastian.huber

In [changeset:"a8f4fd2872784cea12888a3e53d62b74d3e78608/rtems" a8f4fd2/rtems]:

```

1 smptests: Fix format specifier
2
3 Update #3082.

```

Author: Trac Migrate 2017-08-22T14:51:57.000Z

Original author: sebastian.huber

In [changeset:"b98e407f63139236abbff086011f1c267d61e73c/rtems" b98e407/rtems]:

```

1 libchip/ata: Fix integer to/from pointer
2
3 Update #3082.

```

Author: Trac Migrate 2017-08-22T14:52:10.000Z

Original author: sebastian.huber

In [changeset:"5e1a831e2bdd8b295d37e9728f555147635765b9/rtems" 5e1a831/rtems]:

```

1 libchip/serial: Fix integer types
2
3 Update #3082.

```

Author: Trac Migrate 2017-08-22T14:52:22.000Z

Original author: sebastian.huber

In [changeset:"caa12270d0e79d1f75177e22645e1a1edcda617b/rtems" caa12270/rtems]:

```
1 powerpc: Add register defines
2
3 Update #3082.
```

Author: Trac Migrate 2017-08-22T14:52:35.000Z

Original author: sebastian.huber

In [changeset:"ea9084defdfdcf8d08ad02e8608b37351e475fb4/rtems" ea9084de/rtems]:

```
1 powerpc: ppc_interrupt_get_disable_mask()
2
3 Fix warning on 64-bit PowerPC.
4
5 Update #3082.
```

Author: Trac Migrate 2017-08-22T14:52:47.000Z

Original author: sebastian.huber

In [changeset:"5a9372ff7ead4a8d91d5acb7cb6f04df0cc41814/rtems" 5a9372f/rtems]:

```
1 powerpc: 64-bit support for CPU_SIZEOF_POINTER
2
3 Update #3082.
```

Author: Trac Migrate 2017-08-22T14:52:59.000Z

Original author: sebastian.huber

In [changeset:"7837728b13076fce67b67025ad7a02890748c94c/rtems" 7837728b/rtems]:

```
1 powerpc: 64-bit _CPU_Context_Initialize() support
2
3 Update #3082.
```

Author: Trac Migrate 2017-08-22T14:53:11.000Z

Original author: sebastian.huber

In [changeset:"a6f84b275318dbd89ba0bfd12ff6df631a8ac4bc/rtems"
a6f84b27/rtems]:

```
1 powerpc: Add 64-bit context/interrupt support
2
3 Update #3082.
```

Author: Trac Migrate 2017-08-22T14:53:24.000Z

Original author: sebastian.huber

In [changeset:"ec25c6ef74c82f40af72375070997cbd112b4ae8/rtems"
ec25c6ef/rtems]:

```
1 bsp: Fix integer to/from pointer
2
3 Update #3082.
```

Author: Trac Migrate 2017-08-22T14:53:48.000Z

Original author: sebastian.huber

In [changeset:"241d2f2ff13346f3b219d8ac9808f846f0 added55d/rtems"
241d2f2/rtems]:

```
1 bsp: Fix integer types in bsp_fdt_copy()
2
3 Update #3082.
```

Author: Trac Migrate 2017-08-22T14:54:00.000Z

Original author: sebastian.huber

In [changeset:"60d077f0ba79d61414dbb0367157d84e9eb91bd0/rtems"
60d077f/rtems]:

```
1 bsp/powerpc: Add 64-bit linker sections
2
3 Update #3082.
```

Author: Trac Migrate 2017-08-22T14:54:12.000Z

Original author: sebastian.huber

In [changeset:"50382788b3fae3a6c7b32ffb2dd8282bc8ff9978/rtems"
50382788/rtems]:

```

1 bsp/powerpc: Add 64-bit SET_SELF_CPU_CONTROL
2
3 Update #3082.

```

Author: Trac Migrate 2017-08-22T14:54:25.000Z

Original author: sebastian.huber

In [changeset:"d50124d51b3b70dcf61ca3f1c3c01d97e31db7d3/rtems"
d50124d/rtems]:

```

1 bsp/powerpc: Rename ppc_exc_wrap_async_normal_end
2
3 Rename ppc_exc_wrap_async_normal_end to ppc_exc_interrupt_end to avoid a
4 bit of obfuscation.
5
6 Update #3082.

```

Author: Trac Migrate 2017-08-22T14:54:37.000Z

Original author: sebastian.huber

In [changeset:"0e26c19a07853422e15444835394ba28e1f17e2a/rtems"
0e26c19a/rtems]:

```

1 bsp/powerpc: Add 64-bit CRT init/fini support
2
3 Update #3082.

```

Author: Trac Migrate 2017-08-22T14:54:50.000Z

Original author: sebastian.huber

In [changeset:"c6994af7a7a1ba9afb0403d9e0785a905edab6ee/rtems"
c6994af/rtems]:

```

1 bsp/qoriq: Use LA to load an address
2
3 Add 64-bit support for LA.
4
5 Update #3082.

```

Author: Trac Migrate 2017-08-22T14:55:03.000Z

Original author: sebastian.huber

In [changeset:"43cc2b4daf1eb6e6aff2db26c07e84910cfea0cb/rtems"
43cc2b4/rtems]:

```
1 bsp/qorik: Add basic 64-bit support
2
3 Update #3082.
```

Author: Trac Migrate 2017-08-22T14:55:15.000Z

Original author: sebastian.huber

In [changeset:"0ae1916bcfbf5cc73ed9d932e1d58bc550514b9b/rtems"
0ae1916b/rtems]:

```
1 bsp/qorik: Copy FDT later
2
3 We need a ready to use TOC section before we can call bsp_fdt_copy().
4
5 Update #3082.
```

Author: Trac Migrate 2017-08-22T14:55:27.000Z

Original author: sebastian.huber

In [changeset:"f14da4517f8297f5bcf4a125f8357da73111981f/rtems"
f14da45/rtems]:

```
1 bsp/qorik: 64-bit support for spin table
2
3 Update #3082.
```

Author: Trac Migrate 2017-08-22T14:55:40.000Z

Original author: sebastian.huber

In [changeset:"5f42a0e4788be25bb14bc995f80c1d26f43e0b73/rtems"
5f42a0e/rtems]:

```
1 bsp/qorik: Enable 64-bit mode for exceptions
2
3 Update #3082.
```

Author: Trac Migrate 2017-08-22T14:55:52.000Z

Original author: sebastian.huber

In [changeset:"77c8101686cffda03fdc476567f84a604d6ed268/rtems"
77c81016/rtems]:

```
1 bsp/qorIQ: 64-bit support for interrupt controller
2
3 Update #3082.
```

Author: Trac Migrate 2017-08-22T14:56:04.000Z

Original author: sebastian.huber

In [changeset:"c8aeb76c44ff04d71573c24b6f0ca1a3c2ed33fe/rtems"
c8aeb76/rtems]:

```
1 bsp/qorIQ: 64-bit MMU support
2
3 Update #3082.
```

Author: Trac Migrate 2017-08-22T14:56:16.000Z

Original author: sebastian.huber

In [changeset:"c693a3a5061b67ad63faf7ae76be98ea7eb5cda8/rtems"
c693a3a/rtems]:

```
1 powerpc: PPC64_NOP_FOR_LINKER_TOC_POINTER_RESTORE
2
3 In 64-bit mode, the linker must have the ability to restore the TOC
4 pointer after an external function call.
5
6 Update #3082.
```

Author: Trac Migrate 2017-08-22T14:56:29.000Z

Original author: sebastian.huber

In [changeset:"95a4b1f975287929e76807130f9ee3cfef6840d4/rtems"
95a4b1f/rtems]:

```
1 bsp/qorIQ: Enable > 2GiB memory
2
3 Update #3082.
```

Author: Trac Migrate 2017-08-22T14:56:41.000Z

Original author: sebastian.huber

In [changeset:"695c9c500a91069c6eea24af2f722e3b9f6ac674/rtems"
695c9c50/rtems]:

```

1 bsp/qorik: Add qorik_e6500_64 variant
2
3 Update #3082.

```

Author: Trac Migrate 2017-08-22T14:59:45.000Z

Original author: sebastian.huber

In [changeset:"fd0bcc562bb86425f152ec06f9ebb2abc23211e2/rtems-tools"
fd0bcc5/rtems-tools]:

```

1 tester: Add qorik_e6500_64
2
3 Update #3082.

```

Author: Trac Migrate 2017-08-22T15:02:20.000Z

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"4.12.0"
- **Status** changed from *assigned* to *accepted*

Author: Trac Migrate 2017-08-23T07:26:19.000Z

Original author: sebastian.huber

In [changeset:"b6977f7909b1e8d3b2dac8447b59bffa146e0301/rtems-docs"
b6977f7/rtems-docs]:

```

1 cpu-supplement/powerpc: Rewrite
2
3 Remove obsolete and duplicated information. Reference the ABI
4 specifications. Add 64-bit caveats.
5
6 Update #3082.

```

Author: Trac Migrate 2017-08-23T09:04:37.000Z

Original author: sebastian.huber

In [changeset:"34ff390b0915da9643fceab6d62c39d28d78ebfa/rtems-libbsd"
34ff390/rtems-libbsd]:

```

1 BUS_SPACE(9): 64-bit support
2
3 Update #3082.

```

Author: Trac Migrate 2017-08-24T06:11:40.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

Works on a T4240 with network stack.

Author: Trac Migrate 2017-08-24T13:55:28.000Z

Original author: sebastian.huber

In [changeset:"873ba805c7fd365dd38b835d34e6cd9826a66fd2/rtems-docs" 873ba80/rtems-docs]:

```
1 cpu-supplement: Fix PowerPC TOC limitation
2
3 Update #3082.
```

Author: Trac Migrate 2017-08-25T08:36:10.000Z

Original author: sebastian.huber

In [changeset:"3fdea2d2c0aa0c19d1a88c0f83d88e4a5efe562d/rtems-docs" 3fdea2d/rtems-docs]:

```
1 cpu-supplement: Use literal instead of emphasis
2
3 Update #3082.
```

Author: Trac Migrate 2017-09-28T11:22:22.000Z

Original author: sebastian.huber

In [changeset:"910adc3e838f72e66d5ffdc71140412cd8607b89/rtems" 910adc3/rtems]:

```
1 bsps: Fix integer to/from pointer warnings
2
3 Update #3082.
```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Trac Migrate 2017-11-24T14:13:31.000Z

Original author: sebastian.huber

In [changeset:"2e7c3f68d1835e6119f25d71f2de6aa109206df4/rtems" 2e7c3f6/rtems]:

```
1 sptest/splinkersets01: Fix 64-bit targets
2
3 Update #3082.
```

Author: Trac Migrate 2017-11-24T14:19:07.000Z

Original author: sebastian.huber

In [changeset:"54e7b81b98da4326dbf34c98b37c61215d3cb2f9/rtems" 54e7b81/rtems]:

```
1 libtests/stringto01: Fix 64-bit targets
2
3 Update #3082.
```

Author: Trac Migrate 2017-11-24T14:27:25.000Z

Original author: sebastian.huber

In [changeset:"57f96b999dbdef888c1af8e712b3ea726bf03047/rtems" 57f96b9/rtems]:

```
1 libtests/malloctest: Fix 64-bit targets
2
3 Update #3082.
```

Author: Trac Migrate 2018-01-22T14:24:50.000Z

Original author: sebastian.huber

In [changeset:"5fb838d1811c61d3d4a4c0870c94ebd14df9ef6e/rtems" 5fb838d/rtems]:

```
1 rfs: Fix for 64-bit targets
2
3 The RTEMS_BLKIO_SETBLKSIZE IO control expects an uint32_t parameter and
4 not a size_t which is 64-bits on 64-bit targets.
5
6 Update #3082.
```

Author: Trac Migrate 2018-01-23T07:00:46.000Z

Original author: sebastian.huber

In [changeset:"6bb9b3df7b5ea97e151d39654092c060d2175045/rtems"
6bb9b3df/rtems]:

```
1 rfs: Fix format warning
2
3 Update #3082.
```

Author: Trac Migrate 2018-01-29T05:59:40.000Z

Original author: sebastian.huber

In [changeset:"bc96f3b4b889891cb685c4bbcaf12166ca08331c/rtems"
bc96f3b4/rtems]:

```
1 ada: Introduce RTEMS.Size type
2
3 Some time ago the Classic API object size related parameters were
4 changed to use size_t. Reflect this in the Ada bindings.
5
6 Update #3082.
```

Author: Trac Migrate 2018-02-02T14:20:01.000Z

Original author: sebastian.huber

In [changeset:"c1c71cdfccc12adf8589f9c1934bef834a304c4d/rtems"
c1c71cd/rtems]:

```
1 sp20: Fix print buffer size
2
3 There were two issues:
4
5 1. The buffer size must be divisible by 8 on 64-bit targets
6
7 2. It must be large enough to service the begin of start message.
8
9 Update #3082.
```

Author: Trac Migrate 2018-02-02T14:20:13.000Z

Original author: sebastian.huber

In [changeset:"d71d1da5083a211eca91c48b58359e9e8245bdbb/rtems"
d71d1da/rtems]:

```
1 spsyslock01: Fix object compare
2
```

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```

3 Due to structure internal padding the use of memcmp() may lead to
4 sporadic test failures.
5
6 Update #3082.

```

Author: Trac Migrate 2019-01-25T14:40:29.000Z

Original author: sebastian.huber

In [changeset:"81aec1814674750f7ac2d59c4d55931251b22986/rtems"81aec18/rtems]:

```

1 bsp/powerpc: Fix 64-bit issues in assembler files
2
3 We have to be careful with instructions which operate explicitly on
4 words or doublewords.
5
6 Update #3082.

```

4.2.1.416 3472 - Update of libbsd to a version close to the FreeBSD 12 release

Id	3472
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-07-19T05:20:30.000Z
Updated	2019-01-24T06:35:25.000Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::project, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3472
Merges	0

Original author: sebastian.huber

The FreeBSD project is about to prepare the FreeBSD 12 release soon:

<https://www.freebsd.org/releases/12.0R/schedule.html>

Use this time frame to update the libbsd stepwise to a FreeBSD trunk version close to the FreeBSD 12 release.

Author: Trac Migrate 2018-07-19T05:28:07.000Z

Original author: sebastian.huber

- **Summary** changed from *Update of libbsd to close to FreeBSD 12 release* to *Update of libbsd to a version close to the FreeBSD 12 release*

Author: Trac Migrate 2018-08-08T06:50:24.000Z

Original author: sebastian.huber

In [changeset:"71948f76fab69c9eb2993dcdcbf68f39301566ce/rtems" 71948f76/rtems]:

```
1 sys/event.h: Update version FreeBSD tag
2
3 Update #3472.
```

Author: Trac Migrate 2018-08-10T05:16:12.000Z

Original author: sebastian.huber

In [changeset:"b8eae1403a13463d9113d1413d8676552385c7c5/rtems" b8eae140/rtems]:

```
1 Add dummy PRI_MIN_KERN to <sys/priority.h>
2
3 Update #3472.
```

Author: Trac Migrate 2018-08-23T12:39:04.000Z

Original author: sebastian.huber

In [changeset:"a36aa8628f11385ab0d9061d6b37d179879322e7/rtems" a36aa86/rtems]:

```
1 Add dummy PI_SOFT to <sys/priority.h>
2
3 Update #3472.
```

Author: Trac Migrate 2018-08-24T07:08:28.000Z

Original author: sebastian.huber

In [changeset:"6695d02bf019ed270d18621773c9b1b15213d082/rtems" 6695d02/rtems]:

```
1 Update FreeBSD kernel timespec support
2
3 This change is based on the following FreeBSD commit:
4
5 "Make timespecadd(3) and friends public
6
7 The timespecadd(3) family of macros were imported from NetBSD back in
8 r35029. However, they were initially guarded by #ifdef _KERNEL. In the
```

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```

9 meantime, we have grown at least 28 syscalls that use timespecs in some
10 way, leading many programs both inside and outside of the base system to
11 redefine those macros. It's better just to make the definitions public.
12
13 Our kernel currently defines two-argument versions of timespecadd and
14 timespecsub. NetBSD, OpenBSD, and FreeBSD.org's libbsd, however,
15 ↪ define
16 ↪ three-argument versions. Solaris also defines a three-argument version,
17 ↪ but
18 ↪ only in its kernel. This revision changes our definition to match the
19 common three-argument version.
20
21 Bump _FreeBSD_version due to the breaking KPI change.
22
23 Discussed with: cem, jilles, ian, bde
24 Differential Revision: https://reviews.freebsd.org/D14725
25
26 To make the change public (outside #ifdef _KERNEL) it must be integrated
27 in Newlib.
28
29 Update #3472.

```

Author: Trac Migrate 2018-08-24T07:37:03.000Z

Original author: sebastian.huber

In [changeset:"f62c62d2fe57ec02c1350144f7739f8e866ee6d4/rtems-libbsd"
f62c62d/rtems-libbsd]:

```

1 Update rtems-bsd-kernel-namespace.h
2
3 Update #3472.

```

Author: Trac Migrate 2018-08-27T05:41:55.000Z

Original author: sebastian.huber

In [changeset:"27c89d7981b119917d69f99d35a8b2ea2a4b9a80/rtems"
27c89d7/rtems]:

```

1 Add FreeBSD kernel space header files
2
3 Move the kernel space content of some Newlib provided header files to
4 RTEMS and libbsd. This allows to use the Newlib provided header files
5 with different FreeBSD baselines.
6
7 Update #3472.

```

Author: Trac Migrate 2018-08-27T05:42:05.000Z

Original author: sebastian.huber

In [changeset:"6d70a1190539ade3f6ec67358461292908473066/rtems" 6d70a11/rtems]:

```
1 Include <stdbool.h> in <machine/_kernel_types.h>
2
3 The FreeBSD kernel started to use the bool type.
4
5 Update #3472.
```

Author: Trac Migrate 2018-08-27T05:45:56.000Z

Original author: sebastian.huber

In [changeset:"63084c1988e3c8c0858fd747485f250a2160f434/rtems-libbsd" 63084c1/rtems-libbsd]:

```
1 IPFW(4): Remove FreeBSD import
2
3 This firewall was not ported to RTEMS and is just dead code which may
4 make trouble during FreeBSD baseline updates. It also increased the
5 compile-time of the library for nothing.
6
7 Update #3472.
```

Author: Trac Migrate 2018-08-27T05:46:04.000Z

Original author: sebastian.huber

In [changeset:"ee738dd7ae2422b82d83ba1eb2f63ad5636d4dc9/rtems-libbsd" ee738dd/rtems-libbsd]:

```
1 WPA_SUPPLICANT(8): Remove unused files
2
3 Remove unused files which may make trouble during FreeBSD baseline
4 updates. It also increased the compile-time of the library for nothing.
5
6 Update #3472.
```

Author: Trac Migrate 2018-08-27T05:46:12.000Z

Original author: sebastian.huber

In [changeset:"4c22b5c1f25db9de7fc0022a3815eaa8b2500314/rtems-libbsd" 4c22b5c/rtems-libbsd]:

```

1 Add FreeBSD kernel space header files
2
3 Move the kernel space content of some Newlib provided header files to
4 RTEMS and libbsd. This allows to use the Newlib provided header files
5 with different FreeBSD baselines.
6
7 Update #3472.
```

Author: Trac Migrate 2018-08-27T05:46:19.000Z

Original author: sebastian.huber

In [changeset:"dd60daaaa3c76178ace3605033bef4f3f3b974f3/rtems-libbsd"
dd60daa/rtems-libbsd]:

```

1 Allow *.c as kernel space header files
2
3 This is a workaround for the FreeBSD kernel space source file
4
5 sys/opencrypto/xform.c
6
7 which includes a bunch of *.c files.
8
9 Update #3472.
```

Author: Trac Migrate 2018-08-28T05:13:25.000Z

Original author: sebastian.huber

In [changeset:"02302026ccc257ece411d955836a3ac9b8afb9dc/rtems-source-
builder" 0230202/rtems-source-builder]:

```

1 5: Update Newlib
2
3 Pick up POSIX header file changes for an upcoming FreeBSD baseline
4 update in libbsd.
5
6 Update #3472.
7 Close #3491.
```

Author: Trac Migrate 2018-08-28T07:41:50.000Z

Original author: sebastian.huber

In [changeset:"100e66f56082d8a7a509bc77973eb10d633bf1b5/rtems-libbsd"
100e66f/rtems-libbsd]:

```

1 kvaddr_t is now provided by <sys/types.h>
2
3 Update #3472.

```

Author: Trac Migrate 2018-09-10T09:37:39.000Z

Original author: sebastian.huber

In [changeset:"e58f1cd381edf890c8021f7a7bd2a3428d4da30d/rtems" e58f1cd3/rtems]:

```

1 Add more dummy values to <sys/priority.h>
2
3 Update #3472.

```

Author: Trac Migrate 2018-09-21T08:36:41.000Z

Original author: sebastian.huber

In [changeset:"ab4fe111e6b3da0fbd64be8a305dbe96a5fe4f9d/rtems-libbsd" ab4fe11/rtems-libbsd]:

```

1 CONTRIBUTING.md: Avoid explicit commit numbers
2
3 Update #3472.

```

Author: Trac Migrate 2018-09-21T08:36:48.000Z

Original author: sebastian.huber

In [changeset:"2707771893c900d09f10cdc615f1919bde6c80f5/rtems-libbsd" 2707771/rtems-libbsd]:

```

1 libbsd.txt: Avoid explicit versions
2
3 Update #3472.

```

Author: Trac Migrate 2018-09-21T08:37:13.000Z

Original author: sebastian.huber

In [changeset:"de261e0404e1fe54544275fc57d5b982df4f42b4/rtems-libbsd" de261e0/rtems-libbsd]:

```

1 Update to FreeBSD head 2017-06-01
2
3 Git mirror commit dfb26efac4ce9101dda240e94d9ab53f80a9e131.

```

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4
5 Update [#3472](#).

Author: Trac Migrate 2018-09-21T08:37:23.000Z

Original author: sebastian.huber

In [changeset:"c37f9fba70085fedc8eede7559489d2321393005/rtems-libbsd"
c37f9fb/rtems-libbsd]:

1 Update to FreeBSD head [2017-08-01](#)
2
3 Git mirror commit f5002f5e5f78cae9f0269d812dc0aedb0339312c.
4
5 Update [#3472](#).

Author: Trac Migrate 2018-09-21T08:37:32.000Z

Original author: sebastian.huber

In [changeset:"e4a8065910cd6b2e7e0448cc6431ca2906322389/rtems-libbsd"
e4a8065/rtems-libbsd]:

1 Update to FreeBSD head [2017-10-01](#)
2
3 Git mirror commit b2f0376b45428f13151d229c5ae9d4d8f74acbd1.
4
5 Update [#3472](#).

Author: Trac Migrate 2018-09-21T08:37:46.000Z

Original author: sebastian.huber

In [changeset:"bb80d9df8bac71eedee1a6787ca63aef972a7e48/rtems-libbsd"
bb80d9d/rtems-libbsd]:

1 Update to FreeBSD head [2017-12-01](#)
2
3 Git mirror commit e724f51f811a4b2bd29447f8b85ab5c2f9b88266.
4
5 Update [#3472](#).

Author: Trac Migrate 2018-09-21T08:37:57.000Z

Original author: sebastian.huber

In [changeset:"18fa92c2dcc6c52e0bf27d214d80f0c25a89b47d/rtems-libbsd"
18fa92c/rtems-libbsd]:

```

1 Update to FreeBSD head 2018-02-01
2
3 Git mirror commit d079ae0442af8fa3cf6d7ede190d04e64a2c0d4.
4
5 Update #3472.

```

Author: Trac Migrate 2018-09-21T08:38:07.000Z

Original author: sebastian.huber

In [changeset:"2df56dbd60bb5d925d2ce0ddbdefdbe6107ea783/rtems-libbsd" 2df56db/rtems-libbsd]:

```

1 Update to FreeBSD head 2018-04-01
2
3 Git mirror commit 8dfb1ccc26d1cea7e2529303003ff61f9f1784c4.
4
5 Update #3472.

```

Author: Trac Migrate 2018-09-21T08:38:20.000Z

Original author: sebastian.huber

In [changeset:"bcdce02d9bc8150e1d191ed5ca9da45b7604964a/rtems-libbsd" bcdce02/rtems-libbsd]:

```

1 Update to FreeBSD head 2018-06-01
2
3 Git mirror commit fb63610a69b0eb7f69a201ba05c4c1a7a2739cf9.
4
5 Update #3472.

```

Author: Trac Migrate 2018-09-21T08:38:28.000Z

Original author: sebastian.huber

In [changeset:"baf1ca76290f43e054e5182c147ca332cb59890f/rtems-libbsd" baf1ca7/rtems-libbsd]:

```

1 ck: Use atomic built-ins
2
3 Update #3472.

```

Author: Trac Migrate 2018-09-21T08:38:35.000Z

Original author: sebastian.huber

In [changeset:"3becda1fef854cbe39e462a1774b860e1455c8ef/rtems-libbsd" 3becda1/rtems-libbsd]:

```
1 ck: Define CK_MD_PPC32_LWSYNC if available
2
3 This is option has a huge performance impact.
4
5 Update #3472.
```

Author: Trac Migrate 2018-09-21T08:38:50.000Z

Original author: sebastian.huber

In [changeset:"3489e3b6396ee9944a6a2e19e675ca54c36993b4/rtems-libbsd" 3489e3b/rtems-libbsd]:

```
1 Update to FreeBSD head 2018-09-17
2
3 Git mirror commit 6c2192b1ef8c50788c751f878552526800b1e319.
4
5 Update #3472.
```

Author: Trac Migrate 2018-09-21T08:38:58.000Z

Original author: sebastian.huber

In [changeset:"1af372a5eeaba3115f139e4efc0204e2cd7208bb/rtems-libbsd" 1af372a/rtems-libbsd]:

```
1 ck: No hardware barriers in uniprocessor configs
2
3 Update #3472.
```

Author: Trac Migrate 2018-09-21T08:39:06.000Z

Original author: sebastian.huber

In [changeset:"be6515d2c1086c76ee965c6300cc5873c76afab9/rtems-libbsd" be6515d/rtems-libbsd]:

```
1 ck: Use relaxed memory order if possible
2
3 In uniprocessor configurations we can use a relaxed memory order and
4 compiler memory barriers should be sufficient.
5
6 Update #3472.
```

Author: Trac Migrate 2018-09-24T06:01:50.000Z

Original author: sebastian.huber

In [changeset:"7aba2a40871b990567d0b2eb53544fd840a63a1e/rtems-libbsd" 7aba2a4/rtems-libbsd]:

```
1 ck: Install header files
2
3 Update #3472.
```

Author: Trac Migrate 2018-12-13T10:34:48.000Z

Original author: sebastian.huber

In [changeset:"f80abf0f7ce472f4657f5aa227ec79726674c543/rtems-source-builder" f80abf0/rtems-source-builder]:

```
1 5: Update Newlib
2
3 Pick up <sys/time.h> updates from FreeBSD.
4
5 Update #3472.
```

Author: Trac Migrate 2018-12-21T11:04:36.000Z

Original author: sebastian.huber

In [changeset:"78dc8cd1d8854452ba030e016d999be54c0adfc1/rtems-source-builder" 78dc8cd/rtems-source-builder]:

```
1 5: Update Newlib
2
3 Pick up FreeBSD compatibility improvements.
4
5 Update #3472.
```

Author: Trac Migrate 2019-01-24T06:35:25.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

The master branch is now based on a post FreeBSD 12 release trunk. There is now also a 5-freebsd-12 branch which tracks the FreeBSD stable/12 branch.

4.2.1.417 3554 - rtems-libbsd README.waf Needs an Update Sweep

Id	3554
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-10-18T21:54:48.000Z
Updated	2019-01-22T14:04:04.000Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3554
Merges	0

It is out of date at least by mentioning 4.12 instead of 5. If there are other nits or issues, they need to be addressed while updating the release info.

Author: Joel Sherrill 2018-10-18T21:55:02.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2019-01-22T14:04:04.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Fixed with [9e7f3b73b26c2c724caf2560744894f1108a386b/rtems-libbsd].

4.2.1.418 3568 - RSB: UnboundLocalError: local variable 'build_max_size_human' referenced before assignment

Id	3568
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2018-10-25T05:59:20.000Z
Updated	2019-01-11T06:25:45.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3568
Merges	0

Original author: sebastian.huber

../source-builder/sb-set-builder -prefix=/build/rtems/5 5/rtems-or1k

```

1 ...
2 config: tools/rtems-gcc-4.9.3-newlib-08eab6396f678cf5e5968acaed0bae9fd129983b.cfg
3 package: or1k-rtems5-gcc-4.9.3-newlib-08eab6396f678cf5e5968acaed0bae9fd129983b-
  ↳x86_64-linux-gnu-1
4 warning: gcc-4.9.3-or1k.patch: no hash found
5 building: or1k-rtems5-gcc-4.9.3-newlib-08eab6396f678cf5e5968acaed0bae9fd129983b-
  ↳x86_64-linux-gnu-1
6 error: building or1k-rtems5-gcc-4.9.3-newlib-
  ↳08eab6396f678cf5e5968acaed0bae9fd129983b-x86_64-linux-gnu-1
7 Build FAILED
8 See error report: rsb-report-or1k-rtems5-gcc-4.9.3-newlib-
  ↳08eab6396f678cf5e5968acaed0bae9fd129983b-x86_64-linux-gnu-1.txt
9 error: building or1k-rtems5-gcc-4.9.3-newlib-
  ↳08eab6396f678cf5e5968acaed0bae9fd129983b-x86_64-linux-gnu-1
10 Mailing report: build@rtems.org
11 Traceback (most recent call last):
12 File "../source-builder/sb/cmd-set-builder.py", line 26, in <module>
13 setbuilder.run()
14 File "/scratch/git-rtems-source-builder/source-builder/sb/setbuilder.py", line_
  ↳619, in run
15 b.build(deps, mail = mail)
16 File "/scratch/git-rtems-source-builder/source-builder/sb/setbuilder.py", line_
  ↳530, in build
17 body += 'Maximum build usage: ' + build_max_size_human + os.linesep
18 UnboundLocalError: local variable 'build_max_size_human' referenced before_
  ↳assignment

```

Author: Trac Migrate 2019-01-11T06:25:45.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"5f6ad9d08ba8a3b69f408c91cbc0f57deff65b26/rtems-source-builder" 5f6ad9d/rtems-source-builder]:

```

1 Fix 'build_max_size_human' ref. before assignment
2
3 Close #3568.

```

4.2.1.419 3673 - xilinx_zynq_a9_qemu - fails to link psxconfig01

Id	3673
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2019-01-10T00:24:33.000Z
Updated	2019-01-10T07:12:41.000Z
Milestone	5.1
Labels	arch:arm, priority::high, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3673
Merges	0

This is with POSIX disabled.

```
/home/joel/rtems-work/rtems-testing/rtems/build-arm-xilinx_zynq_a9_qemu-rtems/arm-
rtems5/c/xilinx_zynq_a9_qemu/testsuites/psxtests/../../../../rtems/c/src/../../../../testsuites/psxtests/psxcon
undefined reference to `timer_create' collect2: error: ld returned 1 exit status
```

Author: Joel Sherrill 2019-01-10T00:27:19.000Z

- **Description** changed

```
1 + This is with POSIX disabled.
2 +
3 /home/joel/rtems-work/rtems-testing/rtems/build-arm-xilinx_zynq_a9_qemu-
  ↳ rtems/arm-rtems5/c/xilinx_zynq_a9_qemu/testsuites/psxtests/../../../../
  ↳ ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxconfig01/init.c:499:
  ↳ undefined reference to `timer_create'
4 collect2: error: ld returned 1 exit status
```

Author: Trac Migrate 2019-01-10T07:06:34.000Z

Interesting, this is due to the -O0 optimization level. For the erc32 the empty loop is optimized away and there is no reference.

Author: Trac Migrate 2019-01-10T07:12:41.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"3a5c71dea4d409d856749ccada375c0651e5648/rtems" 3a5c71d/rtems]:

```
1 psxconfig01: Fix pre-processor conditions
2
3 Do not rely on compiler optimizations to throw away empty loops.
```

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```
4 |
5 | Close #3673.
```

4.2.1.420 3674 - Raspberry Pi Fails to Build

Id	3674
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2019-01-10T00:25:36.000Z
Updated	2019-01-10T07:12:37.000Z
Milestone	5.1
Labels	arch:arm, priority::high, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3674
Merges	0

```
../././././././././rtems/c/src/lib/libbsp/arm/raspberrypi/../.././././././././bsps/arm/shared/cache/cache-  
v7ar-disable-data.S: Assembler messages: ../././././././././rtems/c/src/lib/libbsp/arm/raspberrypi/../../././.  
v7ar-disable-data.S:47: Error: selected processor does not support `dmb' in ARM mode  
../././././././././rtems/c/src/lib/libbsp/arm/raspberrypi/../.././././././././bsps/arm/shared/cache/cache-  
v7ar-disable-data.S:53: Error: selected processor does not support `isb' in ARM mode  
../././././././././rtems/c/src/lib/libbsp/arm/raspberrypi/../.././././././././bsps/arm/shared/cache/cache-  
v7ar-disable-data.S:77: Error: selected processor does not support `isb' in ARM mode  
../././././././././rtems/c/src/lib/libbsp/arm/raspberrypi/../.././././././././bsps/arm/shared/cache/cache-  
v7ar-disable-data.S:85: Error: invalid constant (3ff) after fixup  
../././././././././rtems/c/src/lib/libbsp/arm/raspberrypi/../.././././././././bsps/arm/shared/cache/cache-  
v7ar-disable-data.S:92: Error: invalid constant (7fff) after fixup gmake[6]: *** [cache-v7ar-  
disable-data.o] Error 1
```

Author: Trac Migrate 2019-01-10T07:12:37.000Z

- **Resolution** set to $\sim$ "fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"e7d623e7e2d0d22672866c0e6c36abdd8c7d7d5b/rtems"
e7d623e7/rtems]:

```
1 bsp/arm: Conditional ARMv7-AR data cache disable
2
3 Update #3667.
4 Close #3674.
```


4.2.1.421 3667 - Support data cache disable on ARMv7-AR

Id	3667
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-12-21T09:32:08.000Z
Updated	2019-01-10T07:12:37.000Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3667
Merges	0

Original author: sebastian.huber

Author: Trac Migrate 2018-12-21T09:33:17.000Z

Original author: sebastian.huber

In [changeset:"ba856559a4120a7f454aad30445508f0acc2a040/rtems" ba85655/rtems]:

```

1 ARM_CACHE_L1_CPU_SUPPORT_PROVIDES_RANGE_FUNCTIONS
2
3 Remove this superfluous define.
4
5 Update #3667.
```

Author: Trac Migrate 2018-12-21T09:33:21.000Z

Original author: sebastian.huber

In [changeset:"a6f70e1a0977f2d175d3fead8f4139ae76ea4e72/rtems" a6f70e1/rtems]:

```

1 bsps: Remove superfluous comments in cacheimpl.h
2
3 Remove superfluous blank lines.
4
5 Update #3667.
```

Author: Trac Migrate 2018-12-21T09:33:24.000Z

Original author: sebastian.huber

In [changeset:"5e0ab023cb4079d30c3ce03404ce0f89adabb7ed/rtems" 5e0ab02/rtems]:

```

1 bsps: Update cache manager documentation
2
3 Update #3667.

```

Author: Trac Migrate 2018-12-21T09:33:28.000Z

Original author: sebastian.huber

In [changeset:"b0c2d482353fc92047e64ed91a274f0f297d0555/rtems" b0c2d48/rtems]:

```

1 bsps: Add CPU_CACHE_SUPPORT_PROVIDES_DISABLE_DATA
2
3 Update #3667.

```

Author: Trac Migrate 2018-12-21T09:33:31.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"41a557bc2fc9621c49bbbea635a90ab4b86ef49a/rtems" 41a557bc/rtems]:

```

1 bsps/arm: Add ARMv7-AR disable data cache
2
3 Close #3667.

```

Author: Trac Migrate 2019-01-10T07:12:34.000Z

Original author: sebastian.huber

In [changeset:"0abe47f142691910cae4e8a8b0544e63c14a5516/rtems" 0abe47f/rtems]:

```

1 bsps/arm: Fix typo in disable cache for ARMv7-AR
2
3 Update #3667.

```

Author: Trac Migrate 2019-01-10T07:12:37.000Z

Original author: sebastian.huber

In [changeset:"e7d623e7e2d0d22672866c0e6c36abdd8c7d7d5b/rtems" e7d623e7/rtems]:

```

1 bsps/arm: Conditional ARMv7-AR data cache disable
2
3 Update #3667.
4 Close #3674.

```

4.2.1.422 3433 - Add SMP support for RISC-V

Id	3433
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-05-25T07:10:47.000Z
Updated	2019-01-09T09:37:21.000Z
Milestone	5.1
Labels	arch:riscv, priority::normal, resolution::fixed, tickettype::project, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3433
Merges	0

Original author: sebastian.huber

The project includes the following tasks: * add CPU counter support * add context validation code * add BSP support for Qemu * add support for device tree provided by Qemu * fix all unexpected test suite failures running on Qemu * add build system support to enable an SMP build * add SMP implementation

Author: Trac Migrate 2018-05-25T07:11:14.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*

Author: Trac Migrate 2018-06-29T08:31:10.000Z

Original author: sebastian.huber

In [changeset:"7b7e34001054275405db97a86d0dcaae44d87b65/rtems-tools" 7b7e340/rtems-tools]:

```

1 tester: Add rv64imafd_medany.ini
2
3 Update #3433.

```

Author: Trac Migrate 2018-06-29T09:54:24.000Z

Original author: sebastian.huber

In [changeset:"9e3bb457e6e1715b8b6d7edb76fedb945a81bf2b/rtems" 9e3bb45/rtems]:

```
1 bsp/riscv_generic: New linker command file
2
3 This linker command file is based on the "riscv64-rtems5-ld --verbose"
4 output.
5
6 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:54:45.000Z

Original author: sebastian.huber

In [changeset:"41e22955caf028cf50ffd9fd22814aed3d0c624e/rtems" 41e2295/rtems]:

```
1 bsp/riscv_generic: Use standard optimization flags
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:54:56.000Z

Original author: sebastian.huber

In [changeset:"6f5d88a4695d2f0886fe03e28001926d775938c7/rtems" 6f5d88a/rtems]:

```
1 bsp/riscv_generic: Rename to "riscv"
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:55:06.000Z

Original author: sebastian.huber

In [changeset:"f3da074a120b644da501152c5ccb08c5fd5bd19c/rtems" f3da074a/rtems]:

```
1 bsp/riscv: Add new BSP variants
2
3 The latest RISC-V tool chain introduced new multilib variants. Add
4 corresponding BSP variants.
5
6 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:55:17.000Z

Original author: sebastian.huber

In [changeset:"37a1fc20e0721f4de0d046ef72702d913517bc76/rtems" 37a1fc2/rtems]:

```
1 bsp/riscv: Remove unused BSP options
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:55:27.000Z

Original author: sebastian.huber

In [changeset:"16d905f289d69b4c1b5b72130a2d132f947c1f63/rtems" 16d905f/rtems]:

```
1 bsp/riscv: Add BSP options to define RAM region
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:55:50.000Z

Original author: sebastian.huber

In [changeset:"fef0a414cf9ee2ef0f3557687f3b9139e48af9f5/rtems" fef0a41/rtems]:

```
1 bsp/riscv: Do not clear integer registers at start
2
3 There is no need to do this.
4
5 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:56:01.000Z

Original author: sebastian.huber

In [changeset:"52f4fb65b3f5f8db68452e1d6fb218c125a8ce2b/rtems" 52f4fb6/rtems]:

```
1 riscv: Format assembler files
2
3 Use tabs to match the GCC generated assembler output.
4
5 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:56:11.000Z

Original author: sebastian.huber

In [changeset:"b0ee7894d703cb64742bafc3b1ba1987e423f432/rtems" b0ee789/rtems]:

```
1 bsp/riscv: Use memset() to clear .bss
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:56:22.000Z

Original author: sebastian.huber

In [changeset:"9b2ef07f4b2307c2ea7c057918643747e8e2f4a4/rtems" 9b2ef07f/rtems]:

```
1 bsp/riscv: Load global pointer
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:56:33.000Z

Original author: sebastian.huber

In [changeset:"7c3b0df10752cc4bdd1175f5b16fd0978763ff46/rtems" 7c3b0df1/rtems]:

```
1 riscv: Implement ISR set/get level
2
3 Fix prototypes.
4
5 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:56:44.000Z

Original author: sebastian.huber

In [changeset:"853c5ef890ef846f23784f94fc324319ce976e9d/rtems" 853c5ef/rtems]:

```
1 build: Enable RISC-V SMP build
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:56:56.000Z

Original author: sebastian.huber

In [changeset:"2086948a7b06ac238c4ff0c9263c1e578e900fdd/rtems" 2086948/rtems]:

```
1 riscv: Add dummy SMP support
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:57:07.000Z

Original author: sebastian.huber

In [changeset:"fe2cd01ba71a04b5c11eae8ade7969ac1db8640d/rtems"
fe2cd01/rtems]:

```
1 bsp/riscv: Add device tree support
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:57:18.000Z

Original author: sebastian.huber

In [changeset:"5f5c450aa49ba73dcc52cd8f6e62c6aef1412da/rtems"
5f5c450/rtems]:

```
1 bsp/riscv: Add SMP startup synchronization
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:57:29.000Z

Original author: sebastian.huber

In [changeset:"c558cc4b00f00b6746eec3a249a7a79995cea7cf/rtems"
c558cc4/rtems]:

```
1 bsp/riscv: Fix vector table for lp64
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:57:39.000Z

Original author: sebastian.huber

In [changeset:"1232cd46905cc5a59dae2195c39eb5dd5742a754/rtems"
1232cd46/rtems]:

```
1 bsp/riscv: Add device tree support for console
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:57:50.000Z

Original author: sebastian.huber

In [changeset:"cdfed94f347a112638b914876de8069e10adf175/rtems"
cdfed94f/rtems]:

```
1 bsp/riscv: Rework clock driver
2
3 Use device tree provided timebase frequency. Do not write to read-only
4 mtime register.
5
6 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:58:00.000Z

Original author: sebastian.huber

In [changeset:"ff7b10479b9c55740fcb09e7ed74054e2eb15198/rtems"
ff7b104/rtems]:

```
1 bsp/riscv: Remove bsp_interrupt_handler_default()
2
3 It duplicated the default implementation.
4
5 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:58:10.000Z

Original author: sebastian.huber

In [changeset:"bc3bdf243806251ac251259267807c86d6d600dd/rtems"
bc3bdf2/rtems]:

```
1 riscv: Optimize and fix interrupt disable/enable
2
3 Use the atomic read and clear operation to disable interrupts.
4
5 Do not write the complete mstatus. Instead, set only the MIE bit
6 depending on the level parameter.
7
8 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:58:20.000Z

Original author: sebastian.huber

In [changeset:"3be4478f5a118bd55e0426c0d36f75b1db335ceb/rtems"
3be4478f/rtems]:


```

1 riscv: Avoid namespace pollution
2
3 Remove <rtems/score/riscv-utility.h> include from <rtems/score/cpu.h>
4 (which is visible via <rtems.h> for example).
5
6 Update #3433.

```

Author: Trac Migrate 2018-06-29T09:58:31.000Z

Original author: sebastian.huber

In [changeset:"0fd8287b2be109cd8671a65cac955f943ab60d32/rtems" 0fd8287/rtems]:

```

1 riscv: Add _CPU_Get_current_per_CPU_control()
2
3 Update #3433.

```

Author: Trac Migrate 2018-06-29T09:58:41.000Z

Original author: sebastian.huber

In [changeset:"9704d86f86c5a800a06dd814538df4cd83367fc5/rtems" 9704d86f/rtems]:

```

1 riscv: Enable interrupts during dispatch after ISR
2
3 The code sequence is derived from the ARM code
4 (see _ARMV4_Exception_interrupt).
5
6 Update #2751.
7 Update #3433.

```

Author: Trac Migrate 2018-06-29T09:58:52.000Z

Original author: sebastian.huber

In [changeset:"98f051efed0b415cce5c19d3f4a71858091a3cef/rtems" 98f051e/rtems]:

```

1 riscv: Remove RISCVC_GCC_RED_ZONE_SIZE
2
3 The current ABI says that there is no stack red zone:
4
5 https://github.com/riscv/riscv-elf-psabi-doc/blob/master/riscv-elf.md
6
7 "Procedures must not rely upon the persistence of stack-allocated data
8 whose addresses lie below the stack pointer."

```

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9
10 Update #3433.

Author: Trac Migrate 2018-06-29T09:59:03.000Z

Original author: sebastian.huber

In [changeset:"9510742e7ff48c3df177ec9f7b5e0d229c696e85/rtems"
9510742/rtems]:

1 riscv: Fix CPU_STACK_ALIGNMENT
2
3 According to the RISC-V psABI
4
5 <https://github.com/riscv/riscv-elf-psabi-doc/blob/master/riscv-elf.md>
6
7 the stack alignment **is** 128 bits (16 bytes).
8
9 Update #3433.

Author: Trac Migrate 2018-06-29T09:59:13.000Z

Original author: sebastian.huber

In [changeset:"a49a3c8eed0663bfc4de8b854dcede1573daf246/rtems"
a49a3c8e/rtems]:

1 riscv: Do **not** clear thread context
2
3 Do **not** clear the complete thread context. Initialize only the necessary
4 members. The Context_Control::is_executing member must be preserved
5 across _CPU_Context_Initialize() calls.
6
7 Update #3433.

Author: Trac Migrate 2018-06-29T09:59:23.000Z

Original author: sebastian.huber

In [changeset:"04698ebd49f1d9eacccdcdcf823d0d0966f7f5/rtems"
04698eb/rtems]:

1 riscv: Properly align the thread stack
2
3 Update #3433.

Author: Trac Migrate 2018-06-29T09:59:33.000Z

Original author: sebastian.huber

In [changeset:"2987c4f27a2005fc8161e41df1c386da68a2afe3/rtems" 2987c4f/rtems]:

```
1 riscv: Remove x8 initialization
2
3 The RISC-V psABI
4
5 https://github.com/riscv/riscv-elf-psabi-doc/blob/master/riscv-elf.md
6
7 does not mention that this is a frame pointer.
8
9 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:59:44.000Z

Original author: sebastian.huber

In [changeset:"b706b4a3c09184b2f8ebf5290dc2b1d4a4db6684/rtems" b706b4a/rtems]:

```
1 riscv: Remove mstatus from thread context
2
3 The mstatus register contains no thread-specific state which must be
4 saved/restored during a context switch. Machine interrupts (MIE) must
5 be enabled during a context switch.
6
7 Create separate CPU_Interrupt_frame structure.
8
9 Update #3433.
```

Author: Trac Migrate 2018-06-29T09:59:54.000Z

Original author: sebastian.huber

In [changeset:"8f035cb85aff739de9bd33c4ad20d2e26bc3fee5/rtems" 8f035cb/rtems]:

```
1 riscv: Implement _CPU_Context_volatile_clobber()
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T10:00:04.000Z

Original author: sebastian.huber

In [changeset:"71af1a4bb28c013847bd2810178ad77857f9f614/rtems" 71af1a4/rtems]:

```
1 riscv: Make some CPU port defines visible to asm
2
3 Move SREG and LREG assembler defines to <rtems/score/asm.h>.
4
5 Update #3433.
```

Author: Trac Migrate 2018-06-29T10:00:14.000Z

Original author: sebastian.huber

In [changeset:"40f81ce6342c9f7fe15a7dfe159edea0090ea887/rtems"40f81ce6/rtems]:

```
1 riscv: Implement _CPU_Context_validate()
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T10:00:25.000Z

Original author: sebastian.huber

In [changeset:"dffc08c0e9e0fdaa2911edf8b5067298ba468ed8/rtems"dffc08c/rtems]:

```
1 riscv: Fix interrupt save/restore
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T10:00:35.000Z

Original author: sebastian.huber

In [changeset:"a8188730bfa2ebd71c3b239f8e9c90fb21aaa3fc/rtems"a8188730/rtems]:

```
1 riscv: Fix _CPU_Context_Initialize() prototype
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T10:00:45.000Z

Original author: sebastian.huber

In [changeset:"e43994dfbb2c0ce9012c33c64f14533acc230366/rtems"e43994d/rtems]:

```
1 riscv: Optimize context switch and interrupts
2
3 Save/restore non-volatile registers in _CPU_Context_switch().
4
5 Save/restore volatile registers in _ISR_Handler().
6
7 Update #3433.
```

Author: Trac Migrate 2018-06-29T10:00:55.000Z

Original author: sebastian.huber

In [changeset:"afb60eb183499106c4eedbc44fbb6bba6d67d145/rtems" afb60eb/rtems]:

```
1 riscv: Remove dead code
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T10:01:05.000Z

Original author: sebastian.huber

In [changeset:"694e79a0b778e20b70c04e024ec43e76e563cc61/rtems" 694e79a0/rtems]:

```
1 riscv: Add TLS support
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T10:01:16.000Z

Original author: sebastian.huber

In [changeset:"995e91e84760855da7935afe51d44f99f95284c7/rtems" 995e91e8/rtems]:

```
1 riscv: Fix global construction
2
3 Update #3433.
```

Author: Trac Migrate 2018-06-29T10:01:26.000Z

Original author: sebastian.huber

In [changeset:"52352387cc0b502fd42164604ae9217700b83e31/rtems" 5235238/rtems]:

```

1 riscv: Add floating-point support
2
3 Update #3433.

```

Author: Trac Migrate 2018-06-29T10:01:36.000Z

Original author: sebastian.huber

In [changeset:"109bc1c74b49de091f9544f4423599d877335f35/rtems"
109bc1c7/rtems]:

```

1 riscv: Add SMP context switch support
2
3 Update #3433.

```

Author: Trac Migrate 2018-06-29T10:09:06.000Z

Original author: sebastian.huber

In [changeset:"79d69aef54f396120d2bb91a0da217fd2e2b22aa/rtems"
79d69ae/rtems]:

```

1 riscv: Fix SMP context switch support
2
3 Update #3433.

```

Author: Trac Migrate 2018-06-29T10:09:16.000Z

Original author: sebastian.huber

In [changeset:"79d69aef54f396120d2bb91a0da217fd2e2b22aa/rtems"
79d69ae/rtems]:

```

1 riscv: Fix SMP context switch support
2
3 Update #3433.

```

Author: Trac Migrate 2018-06-29T10:57:42.000Z

Original author: sebastian.huber

In [changeset:"b36bf5bda87b749f4163facbccbff8e15029011b/rtems"
b36bf5b/rtems]:

```

1 score: Increase PER_CPU_CONTROL_SIZE_APPROX
2
3 Increase the PER_CPU_CONTROL_SIZE_APPROX on 64-bit targets.

```

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```

4
5 Update #3433.

```

Author: Trac Migrate 2018-07-02T13:22:23.000Z

Original author: sebastian.huber

In [changeset:"e07b51a71010ca67dc3f5c18c66756db34e18915/rtems"
e07b51a7/rtems]:

```

1 riscv: Fix fcsr initialization
2
3 Update #3433.

```

Author: Trac Migrate 2018-07-06T05:27:22.000Z

Original author: sebastian.huber

In [changeset:"e755782bde234350c6263f893b1c4e8d30bb0a53/rtems"
e755782/rtems]:

```

1 riscv: Clear reservations
2
3 See also RISC-V User-Level ISA V2.3, comment in section 8.2
4 "Load-Reserved/Store-Conditional Instructions".
5
6 Update #3433.

```

Author: Trac Migrate 2018-07-06T08:06:38.000Z

Original author: sebastian.huber

In [changeset:"6418c91d5a49a94755e27310229cd4cd59e60d7e/rtems"
6418c91d/rtems]:

```

1 Update config.guess and config.sub
2
3 Update via:
4
5 wget -O config.guess 'https://git.savannah.gnu.org/gitweb/?p=config.git;
6 ↪a=blob_plain;f=config.guess;hb=HEAD'
7 wget -O config.sub 'https://git.savannah.gnu.org/gitweb/?p=config.git;
8 ↪a=blob_plain;f=config.sub;hb=HEAD'
9
10 Update #3433.

```

Author: Trac Migrate 2018-07-06T12:28:33.000Z

Original author: sebastian.huber

In [changeset:"dd32e2b2d009de525c1a4ad488899fab355d8fed/rtems"
dd32e2b2/rtems]:

```
1 riscv: Implement CPU counter
2
3 Update #3433.
```

Author: Trac Migrate 2018-07-06T12:28:43.000Z

Original author: sebastian.huber

In [changeset:"bca36d986b24b0720ce19b618bbe592baed6cb95/rtems"
bca36d9/rtems]:

```
1 riscv: Add LADDR assembler define
2
3 An address must be loaded to a register according to the code model.
4 Add LADDR define for use in assembler code.
5
6 Update #3433.
```

Author: Trac Migrate 2018-07-06T12:28:54.000Z

Original author: sebastian.huber

In [changeset:"31f90a2ff4cb40b830c2cbcc184315e424fc8e12/rtems"
31f90a2/rtems]:

```
1 bsp/riscv: Simplify printk() support
2
3 This is a prepartion to add NS16550 driver support to the console
4 driver.
5
6 Update #3433.
```

Author: Trac Migrate 2018-07-06T12:29:04.000Z

Original author: sebastian.huber

In [changeset:"1a192398bfff40e7e8f46f3ef872ee289e131fd3/rtems"
1a19239/rtems]:

```
1 bsp/riscv: Add console support for NS16550 devices
2
3 Update #3433.
```

Author: Trac Migrate 2018-07-24T07:13:55.000Z

Original author: sebastian.huber

In [changeset:"3a646426aa421ab3e229ec483d8b29f2f56c29ac/rtems" 3a646426/rtems]:

```
1 score: Add _CPU_Instruction_illegal()
2
3 On some architectures/simulators it is difficult to provoke an
4 exception with misaligned or illegal data loads. Use an illegal
5 instruction instead.
6
7 Update #3433.
```

Author: Trac Migrate 2018-07-25T08:10:25.000Z

Original author: sebastian.huber

In [changeset:"d779a1e228b7112d84e1679cbc483f43a0e59348/rtems" d779a1e2/rtems]:

```
1 riscv: Add exception codes
2
3 Update #3433.
```

Author: Trac Migrate 2018-07-25T08:10:35.000Z

Original author: sebastian.huber

In [changeset:"5694b0cce4908172af3f6292e7f111ac26620af7/rtems" 5694b0c/rtems]:

```
1 riscv: New CPU_Exception_frame
2
3 Use the CPU_Interrupt_frame for the volatile context. Add non-volatile
4 registers and extra state on top of it.
5
6 Update #3433.
```

Author: Trac Migrate 2018-07-25T08:10:45.000Z

Original author: sebastian.huber

In [changeset:"8db3f0e878b7f008ad05716f501220509662e2c4/rtems" 8db3f0e/rtems]:

```
1 riscv: Rework exception handling
2
3 Remove _CPU_ISR_install_raw_handler() and _CPU_ISR_install_vector()
4 functions. Applications can install an exception handler via the fatal
```

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```

5 error handler to handle synchronous exceptions.
6
7 Handle interrupt exceptions via _RISCV_Interrupt_dispatch() which must
8 be provided by the BSP.
9
10 Update #3433.

```

Author: Trac Migrate 2018-07-25T08:10:56.000Z

Original author: sebastian.huber

In [changeset:"7fe48551a2b6d406ad6ad7f3a938651c7b5089b8/rtems" 7fe4855/rtems]:

```

1 bsp/riscv: Fix HTIF warnings
2
3 Update #3433.

```

Author: Trac Migrate 2018-07-25T08:11:06.000Z

Original author: sebastian.huber

In [changeset:"791d9ac5c3150bb2d0f985643cd46f34000ceb94/rtems" 791d9ac5/rtems]:

```

1 bsp/riscv: Disable HTIF support by default
2
3 The HTIF is a legacy machinery.
4
5 Update #3433.

```

Author: Trac Migrate 2018-07-25T08:11:16.000Z

Original author: sebastian.huber

In [changeset:"3a263a9b02227ebb056eef7bcbbc378cacbd476e/rtems" 3a263a9b/rtems]:

```

1 bsp/riscv: Add and use riscv_fdt_get_address()
2
3 Update #3433.

```

Author: Trac Migrate 2018-07-25T08:11:26.000Z

Original author: sebastian.huber

In [changeset:"dda6e06edb366812659652e1c8d93660c76973df/rtems" dda6e06/rtems]:

```

1 bsp/riscv: Add reset via for SiFive Test Finisher
2
3 Update #3433.

```

Author: Trac Migrate 2018-07-25T08:11:37.000Z

Original author: sebastian.huber

In [changeset:"f5fd8eb9e303f35c70724b2dead24eefa94c201f/rtems"
f5fd8eb/rtems]:

```

1 bsp/riscv: Update linker-symbols.h
2
3 Update #3433.

```

Author: Trac Migrate 2018-07-25T08:11:41.000Z

Original author: sebastian.huber

In [changeset:"d3d115a505edb4d58e45e1d0754f2fd0dcaf3dd/rtems-tools"
d3d115a/rtems-tools]:

```

1 tester: Add use virt machine for rv64imafd_medany
2
3 Update #3433.

```

Author: Trac Migrate 2018-07-25T08:11:48.000Z

Original author: sebastian.huber

In [changeset:"c2670deb496d2535bcd6b7705b046530c8a6b49a/rtems"
c2670de/rtems]:

```

1 riscv: Use wfi instruction for idle task
2
3 Update #3433.

```

Author: Trac Migrate 2018-07-25T08:11:58.000Z

Original author: sebastian.huber

In [changeset:"6b9ef097c3f41d4ec371218e7f2e50774c9d3573/rtems"
6b9ef09/rtems]:

```

1 riscv: Add CLINT and PLIC support
2
3 The CLINT and PLIC need some per-processor state.

```

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4
5 Update [#3433](#).

Author: Trac Migrate 2018-07-25T08:12:09.000Z

Original author: sebastian.huber

In [\[changeset:"447fd894aeb245959627893e138b2b9640486040/rtems"447fd89/rtems\]](#):

1 bsp/riscv: Add basic SMP startup
2
3 Update [#3433](#).

Author: Trac Migrate 2018-07-25T08:12:19.000Z

Original author: sebastian.huber

In [\[changeset:"6552ba8c37c4da910a0b9888c5eee1cd2a2d4dbf/rtems"6552ba8/rtems\]](#):

1 bsp/riscv: Use CPU counter btimer
2
3 Update [#3433](#).

Author: Trac Migrate 2018-07-25T08:12:30.000Z

Original author: sebastian.huber

In [\[changeset:"bd5603868aac0496ac137f8679ee711656198c42/rtems"bd560386/rtems\]](#):

1 bsp/riscv: Add simple SMP support to clock driver
2
3 This **is** a hack. The clock interrupt should be handled by each hart.
4
5 Update [#3433](#).

Author: Trac Migrate 2018-07-25T08:12:40.000Z

Original author: sebastian.huber

In [\[changeset:"adede135e7efc1ba2020ff2d64da3f4185ba85c/rtems"adede135/rtems\]](#): ad-

```

1 bsp/riscv: Add PLIC support
2
3 Update #3433.

```

Author: Trac Migrate 2018-07-25T08:12:50.000Z

Original author: sebastian.huber

In [changeset:"581a0f8866401ab057f1b827c7b02c93e8f43fad/rtems" 581a0f88/rtems]:

```

1 bsp/riscv: Use interrupt driven NS16550 driver
2
3 Update #3433.

```

Author: Trac Migrate 2018-07-27T11:26:50.000Z

Original author: sebastian.huber

In [changeset:"65f52d006054cd4cbf06215b47373901dd5abea5/rtems" 65f52d0/rtems]:

```

1 samples/minimum: Use default interrupt stack size
2
3 Update #3433.

```

Author: Trac Migrate 2018-07-27T13:07:35.000Z

Original author: sebastian.huber

In [changeset:"cfc95736ffe1d891e850ed2e702e467b3f10165e/rtems" cfc9573/rtems]:

```

1 riscv: Rework CPU counter support
2
3 Update #3433.

```

Author: Trac Migrate 2018-07-27T13:07:45.000Z

Original author: sebastian.huber

In [changeset:"44c2d393bdd58e4eedfccdfd406afc6914cc4acb/rtems" 44c2d393/rtems]:

```

1 bsp/riscv: Fix inter-processor interrupts
2
3 The previous version worked only on a patched Qemu. Writes to mip are

```

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```
4 illegal according to the The RISC-V Instruction Set Manual, Volume II:
5 Privileged Architecture, Privileged Architecture Version 1.10.
6
7 Update #3433.
```

Author: Trac Migrate 2018-07-31T05:14:14.000Z

Original author: sebastian.huber

In [changeset:"d906ce30c6a6b2e266b2d9c424f6b3a081b763d7/rtems"
d906ce3/rtems]:

```
1 libtests: Use CONFIGURE_INIT_TASK_TABLE_SIZE
2
3 Using CONFIGURE_MINIMUM_TASK_STACK_SIZE increases also the interrupt
4 stack size. This is an issue on some BSPs. Use
5 CONFIGURE_INIT_TASK_TABLE_SIZE instead.
6
7 Update #3433.
```

Author: Trac Migrate 2018-08-01T09:18:31.000Z

Original author: sebastian.huber

In [changeset:"48cbd63c84d26ecb51b6d06c04ef096100f9004d/rtems"
48cbd63/rtems]:

```
1 bsp/riscv: Fix clock driver
2
3 Do not assume that mtime is zero at boot time.
4
5 Update #3433.
```

Author: Trac Migrate 2018-08-01T09:18:42.000Z

Original author: sebastian.huber

In [changeset:"529154bad207a42a6d0f03343c7e215eab97ced5/rtems"
529154b/rtems]:

```
1 bsp/riscv: Initialize FPU depending on ISA
2
3 Initialize fcsr to zero for a defined rounding mode.
4
5 Update #3433.
```

Author: Trac Migrate 2018-08-01T09:19:12.000Z

Original author: sebastian.huber

In [changeset:"56b0387d2fed8fb064f94b9dc71059c79cd11dbd/rtems"
56b0387/rtems]:

```
1 bsp/riscv: Add NS16750 support to console driver
2
3 Update #3433.
```

Author: Trac Migrate 2018-08-01T09:19:23.000Z

Original author: sebastian.huber

In [changeset:"dee2ebbaa680f50189c1e0bd71128d8362a6bfc4/rtems"
dee2ebb/rtems]:

```
1 bsp/riscv: Remove unused variable
2
3 Update #3433.
```

Author: Trac Migrate 2018-08-02T07:28:46.000Z

Original author: sebastian.huber

In [changeset:"3d11c1e2afee49470deec48c0cdd773ed0ac5191/rtems"
3d11c1e/rtems]:

```
1 bsp/riscv: Fix a synchronization issue for PLIC
2
3 Update #3433.
```

Author: Trac Migrate 2018-08-02T07:44:35.000Z

Original author: sebastian.huber

In [changeset:"28b8cf9b898e0745a5e7a6bc8b766fe16abf38a0/rtems"
28b8cf9b/rtems]:

```
1 riscv: Fix CPU_ALIGNMENT
2
3 Update #3433.
```

Author: Trac Migrate 2018-08-02T10:53:46.000Z

Original author: sebastian.huber

In [changeset:"d909c5f19c91f49bc689d211d426f1a298004a4b/rtems-docs"
d909c5f/rtems-docs]:

```
1 cpu-supplement: Add RISC-V chapter
2
3 Update #3433.
```

Author: Trac Migrate 2018-08-02T11:21:52.000Z

Original author: sebastian.huber

In [changeset:"24326a8d07ffa386e058c10b559aedbd02b29795/rtems-docs" 24326a8/rtems-docs]:

```
1 user: Add RISC-V BSP section
2
3 Update #3433.
```

Author: Trac Migrate 2018-08-02T12:40:02.000Z

Original author: sebastian.huber

In [changeset:"4c740de6e2e1e5235abc2756fb6b325e640dde48/rtems" 4c740de/rtems]:

```
1 bsp/riscv: Fix build with RTEMS_SMP undefined
2
3 Update #3433.
```

Author: Trac Migrate 2018-08-02T13:33:21.000Z

Original author: sebastian.huber

In [changeset:"141d502b525aa729c3b3a9ac8873437fc9e9f125/rtems" 141d502/rtems]:

```
1 bsp/riscv: Add missing BSP variant
2
3 Update #3433.
```

Author: Trac Migrate 2018-08-06T07:07:27.000Z

Original author: sebastian.huber

- **Milestone** changed from %"6.1" to %"5.1"
- **Version** set to ~"5"

Author: Trac Migrate 2018-08-06T07:51:44.000Z

Original author: sebastian.huber

In [changeset:"5d957c9c5140742451111cfcf027c295bdf4cd67/rtems-tools" 5d957c9/rtems-tools]:

```
1 tester: Add RISC-V support to BSP builder
2
3 Update #3433.
```

Author: Trac Migrate 2018-08-07T05:02:03.000Z

Original author: sebastian.huber

In [changeset:"d343f830f4dae8e84b4b44902347c60cf18b2ffd/rtems-tools" d343f83/rtems-tools]:

```
1 tester: Exclude SMP build of some RISC-V BSPs
2
3 It makes no sense to build BSPs without support for atomic instructions
4 with SMP enabled.
5
6 Update #3433.
```

Author: Trac Migrate 2018-08-07T05:06:46.000Z

Original author: sebastian.huber

In [changeset:"01600ac88f8e56d70c865f10fa07e453a25c7407/rtems-source-builder" 01600ac/rtems-source-builder]:

```
1 5: Update tools for RISC-V BSP builder support
2
3 Update #3433.
```

Author: Trac Migrate 2018-08-11T13:44:10.000Z

Original author: sebastian.huber

In [changeset:"142770b4591624dde206cd38953915b63891e1c5/rtems-docs" 142770b/rtems-docs]:

```
1 c-user: SMP is supported on RISC-V
2
3 Update #3433.
```

Author: Trac Migrate 2018-09-06T05:16:22.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"

- **Status** changed from *accepted* to *closed*

The RISC-V SMP support is now in a good shape.

Author: Trac Migrate 2019-01-09T09:37:21.000Z

Original author: sebastian.huber

In [changeset:"b9ffc41c9678fb3c5386c1a6ab394656ec85dbc6/rtems" b9ffc41c/rtems]:

```
1 riscv: Enable robust thread dispatch
2
3 It must be enabled, since the context switch code does not save/restore
4 the interrupt status.
5
6 Update #3433.
```

4.2.1.423 3000 - Setting interrupt level in the mode arg on SMP returns RTEMS_UNSATISFIED

Id	3000
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Joel Sherrill
Created	2017-04-19T02:11:59.000Z
Updated	2019-01-09T09:37:17.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3000
Merges	0

If for any reason a user sets the interrupt level in the mode on an SMP build the error RTEMS_UNSATISFIED is returned. The documentation indicates this is a lack of stack and this confusing.

The reason this happens is the SMP check for an interrupt level being set is in the score's `_Thread_Initialize`. I propose that and `is_preemptible` check be converted to an assert and checks be added to the Classic API to catch these errors and report suitable error codes.

There is no meaningful error code available without abusing an existing one so I propose adding RTEMS_INVALID_MODE.

Author: Joel Sherrill 2017-04-19T03:28:50.000Z

I think this is a generally a good idea but there are a number of pieces to do this completely:

- the status has to also be returned by `rtems_task_mode()`

- add status to list in rtems status to string
- add status to list in Ada binding. Should be mechanical.
- add status to status table in Classic API manual
- add new status to rtems_task_create() documentation
- add new status to rtems_task_mode() documentation
- add test for rtems_task_create() new error
- add test for rtems_task_mode() new error

I am unsure if the assert() is debug mode only. That needs to be clarified.

Sorry to be pedantic with the list but this looks like the type of change that is small but has tentacles that would be easy to miss pieces. I suspect my list isn't complete yet.

Author: Chris Johns 2017-04-19T04:42:23.000Z

Replying to [Joel Sherrill](#):

I think this is a generally a good idea but there are a number of pieces to do this completely:

Great and yes.

- the status has to also be returned by rtems_task_mode()

OK.

- add status to list in rtems status to string

Done in the posted patch.

- add status to list in Ada binding. Should be mechanical.

Is there any documentation on how to do this?

Answer: Edit rtems.ads and add it. It is just an enumerated list. You won't have trouble. c/src/ada/rtems.ads around line 353.

- add status to status table in Classic API manual
- add new status to rtems_task_create() documentation
- add new status to rtems_task_mode() documentation

I will create a docs patch once I have a suitable patch for master.

- add test for
rtems_task_create() new
error
- add test for
rtems_task_mode() new
error

Yes however the tests are only running in the single core mode even when built with SMP so the error is not able to be tripped.

ANSWER: Sounds like a new SMP test is needed.

I am unsure if the assert() is debug mode only. That needs to be clarified.

That is correct. The assert's catch a bug in a user of the score API when built with RTEMS_DEBUG. The users of the call need to protect the score thread initialise call.

Sorry to be pedantic with the list but this looks like the type of change that is small but has tentacles that would be easy to miss pieces. I suspect my list isn't complete yet.

This looks the list to me.

Author: Trac Migrate 2017-05-02T05:34:57.000Z

See smpunsupported01 test.

Author: Chris Johns 2017-05-02T06:28:22.000Z

Replying to [Sebastian Huber](#):

See smpunsupported01 test.

What what? Could you please elaborate a little more?

Thanks

Author: Trac Migrate 2017-05-02T06:54:04.000Z

Replying to Chris Johns:

Replying to Sebastian Huber:

See smpunsupported01 test.

What what? Could you please elaborate a little more?

This is the test program the new error cases should be added.

Author: Chris Johns 2017-10-12T17:46:04.000Z

- **Description** changed

```

1 If for any reason a user sets the interrupt level in the mode on an SMP_
   ↳ build the error `RTEMS_UNSATISFIED` is returned. The documentation_
   ↳ indicates this is a lack of stack and this confusing.
2
3 - The reason this happens is the SMP check for an interrupt level being_
   ↳ set is in the score's `_Thread_initialize`. I propose that and {{{is_
   ↳ preemptible}}} check be converted to an {{assert}} and checks be added_
   ↳ to the Classic API to catch these errors and report suitable error_
   ↳ codes.
4 ?
   ↳ 
   ↳                                     ^^^^^^^^^^^^^^^^
5
6 + The reason this happens is the SMP check for an interrupt level being_
   ↳ set is in the score's `_Thread_initialize`. I propose that and `is_
   ↳ preemptible` check be converted to an `assert` and checks be added to_
   ↳ the Classic API to catch these errors and report suitable error codes.
7 ?
   ↳ 
   ↳          +                         ^^^^^^^^^^^^^^^^^^
8
9
10 There is no meaningful error code available without abusing an existing_
    ↳ one so I propose adding `RTEMS_INVALID_MODE`.

```

Author: Joel Sherrill 2017-10-12T18:46:16.000Z

Updated work list:

- Whine that this was easier to report than to fix.
- CPUKit Changes

- (PREVIOUSLY COMMITTED) Add status to enumeration
- (PREVIOUSLY COMMITTED) Add status to list in rtems status to string
- (PREVIOUSLY COMMITTED) Add status to list in Ada binding. Should be mechanical
- (PREVIOUSLY COMMITTED) Add both error checks to rtems_task_create()
- (CLEAN UP PASS) Add both error checks to rtems_task_mode()
- Documentation
- (ADDED) Add status to status table in Classic API manual
- (ADDED) Add new status to rtems_task_create() documentation
- (ADDED) Add new status to rtems_task_mode() documentation
- Testing
- (PREVIOUSLY COMMITTED) Add rtems_task_create() test case(s) to smpun-supported01
- (ONE PREVIOUSLY COMMITTED, ONE ADDED) Add rtems_task_mode() test case(s) to smpunsupported01

Patches for “CLEAN UP PASS” and “ADDED” submitted to devel@ mailing list. Pending review to be committed and close this.

Author: Joel Sherrill 2017-10-12T18:51:18.000Z

- **Owner** set to @joel

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Trac Migrate 2017-12-06T18:49:12.000Z

In [changeset:”e9e0f1d4649191a419274b76cacad354f2a45798/rtems”e9e0f1d4/rtems]:

```

1 smpunsupported01: Add missing error check for rtems_task_mode
2
3 Update test documentation to include more cases.
4
5 Updates #3000.
```

Author: Trac Migrate 2017-12-06T18:49:57.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:"307945504afcaab3b7bb9a29864666e892a707b0/rtems-docs" 3079455/rtems-docs]:

```
1 Account for non-preemption and interrupt level not supported on SMP
2
3 Closes #3000.
```

Author: Trac Migrate 2017-12-07T08:22:31.000Z

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

Tests tm04 and tm20 fail now with `-enable-smp`.

Author: Trac Migrate 2017-12-08T18:16:34.000Z

In [changeset:"1307e759e31af452b614ea341759f638dc81423f/rtems" 1307e75/rtems]:

```
1 tm08: Do not use RTEMS_INTERRUPT_MASK for no reschedule case
2
3 Updates #3000.
```

Author: Trac Migrate 2018-01-19T06:46:33.000Z

In [changeset:"a5b4db4bc250a1beb06da16b3003ae1608c611d4/rtems" a5b4db4b/rtems]:

```
1 rtems: Fix rtems_task_mode()
2
3 A rtems_configuration_is_smp_enabled() inside a !defined( RTEMS_SMP)
4 block makes no sense.
5
6 Remove !defined( RTEMS_SMP ) conditions.
7
8 Test tm04 works now again.
9
10 Update #3000.
```

Author: Chris Johns 2018-04-13T01:46:14.000Z

Can this ticket be closed? If it cannot be closed what is outstanding to be done?

Author: Joel Sherrill 2018-10-14T00:29:16.000Z

- **Resolution** set to ~"fixed"

- **Status** changed from *reopened* to *closed*

Author: Trac Migrate 2019-01-09T09:37:11.000Z

In [changeset:"38cb59ee0b8f3b55ad3277bbf24b5fd1caa88603/rtems" 38cb59e/rtems]:

```
1 Separate task mode checks
2
3 Update #3000.
```

Author: Trac Migrate 2019-01-09T09:37:14.000Z

In [changeset:"1f2851867535aa24edfd8574b520f1b3ec22efc0/rtems" 1f285186/rtems]:

```
1 rtems: Allow to set ISR level 0 in SMP config
2
3 Update #3000.
```

Author: Trac Migrate 2019-01-09T09:37:17.000Z

In [changeset:"3bd3999936cfa8a77a545e513669e61877f9ccb6/rtems" 3bd39999/rtems]:

```
1 Adjust interrupt mode tests for some CPU ports
2
3 In case the robust thread dispatch is enabled by the CPU port, then the
4 interrupt level must not be changed through the task mode.
5
6 Update #3000.
```

4.2.1.424 3670 - examples-v2 uses deprecated or obsolete RTEMS interfaces

Id	3670
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2018-12-26T00:39:19.000Z
Updated	2019-01-07T07:45:58.000Z
Milestone	5.1
Labels	priority::high, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3670
Merges	0

The examples need to be change to use what ever is the newer method of doing something.


```

1 ../../filesystem/fat_ramdisk/init.c:46:3: warning: 'rtems_blkdev_generic_open' is_
  ↳ deprecated [-Wdeprecated-declarations]
2 open_entry:          rtems_blkdev_generic_open,
3 ^~~~~~
4 In file included from /opt/work/chris/rtems/kernel/5/arm-rtems5/xilinx_zynq_
  ↳ zedboard/lib/include/rtems/ramdisk.h:17:0,
5 from ../../filesystem/fat_ramdisk/init.c:16:
6 /opt/work/chris/rtems/kernel/5/arm-rtems5/xilinx_zynq_zedboard/lib/include/rtems/
  ↳ blkdev.h:408:1: note: declared here
7 rtems_blkdev_generic_open(
8 ^~~~~~
9 ../../filesystem/fat_ramdisk/init.c:47:3: warning: 'rtems_blkdev_generic_close'
  ↳ is deprecated [-Wdeprecated-declarations]
10 close_entry:         rtems_blkdev_generic_close,
11 ^~~~~~

```

```

1 In file included from ../../ticker/low_ticker/init.c:88:0:
2 /opt/work/chris/rtems/kernel/5/arm-rtems5/xilinx_zynq_zedboard/lib/include/rtems/
  ↳ confdefs.h:3276:4: warning: #warning "The CONFIGURE_TERMIO_DISABLED_
  ↳ configuration option is obsolete since RTEMS 5.1" [-Wcpp]
3 #warning "The CONFIGURE_TERMIO_DISABLED configuration option is obsolete since_
  ↳ RTEMS 5.1"
4 ^~~~~~

```

Author: Trac Migrate 2019-01-04T06:55:37.000Z

Should the examples work with all RTEMS versions or just RTEMS 5?

Author: Chris Johns 2019-01-07T05:29:58.000Z

Replying to [Sebastian Huber](#):

Should the examples work with all RTEMS versions or just RTEMS 5?

I suppose the examples should be equivalent to what a user sees so in this case they should build with RTEMS 5 and have no errors or warnings. The examples are captured as part of a release which means there is a history and the changes needed for RTEMS.

If I had an application that needed to work with 4.11 and 5 I would detect the version and conditionally handle the changes in the build system and code.

I am OK with them building for RTEMS 5.

Author: Trac Migrate 2019-01-07T07:45:58.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

I fixed the issues. Trac didn't update the ticket.

4.2.1.425 3261 - A couple of documentation typos

Id	3261
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-12-13T10:24:32.000Z
Updated	2019-01-04T10:11:28.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3261
Merges	0

Original author: f.jouault

This patch includes a couple of typo corrections in the C User Manual.

- [0001-fixed-couple-of-typos.patch](#)

Author: Trac Migrate 2017-12-13T10:25:27.000Z

Original author: f.jouault

- **Attachment** [0001-fixed-couple-of-typos.patch](#) added

Author: Trac Migrate 2019-01-04T10:00:38.000Z

Original author: f.jouault

- **Milestone** set to %"5.1"
- **Version** set to ~"5"

Author: Trac Migrate 2019-01-04T10:11:28.000Z

Original author: f.jouault

- **Owner** set to Frédéric Jouault <f.jouault@gmail.com>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"4de0da19687f3432ec2e7b04d20645b82e3adaf4/rtems-docs" 4de0da1/rtems-docs]:

```

1 c-user: Fix typos
2
3 Close #3261.
```

4.2.1.426 3537 - RSB and RTEMS Tools Support for python2 and python3

Id	3537
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2018-10-02T21:38:43.000Z
Updated	2018-12-25T01:15:53.000Z
Milestone	5.1
Labels	priority::high, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3537
Merges	0

Upstream python does not create a python command any more and creates python2 and python3. Distributions and operating systems are starting to ship without the python command.

The RSB and RTEMS Tools python commands need to be updated and tested so they run on Python2 and Python3 and support added to use the available commands.

Author: Trac Migrate 2018-10-04T05:55:01.000Z

Do we have a host platform without python3 support? If not, then I would simply use python3 and stop using python/python2.

Author: Chris Johns 2018-10-04T06:30:58.000Z

Replying to [Sebastian Huber](#):

Do we have a host platform without python3 support? If not, then I would simply use python3 and stop using python/python2. In time we will need to switch to python3 however I am not in a position to go over all the code and do this. I think it also makes things difficult or at least more complicated for users with established environment to get such a hard error. We should consider a softer landing if this is possible. I am considering moving to a shell script that checks for python2 then python3 and if not found outputs a user friendly error message. The existing code is moved into the python directories run from the python command line. Once we are happy with python3 we can switch the order we check. A script would let us add an environment variable we could use to force a version to test with without needing symlinks etc.

Author: Trac Migrate 2018-10-04T06:40:08.000Z

I think we already have a fairly good Python 3 support, since on a recent msys2 there is no Python 2 available?

One issue is probably the RTEMS Tester. We had some difficulties with the TFTP Server:

<https://github.com/msoulier/tftpy/pull/94>

The latest tftpy seems to work only with Python 3.5, but not 3.4.

Author: Chris Johns 2018-10-04T07:21:09.000Z

Replying to [Sebastian Huber](#):

I think we already have a fairly good Python 3 support, since on a recent msys2 there is no Python 2 available?

I agree we seem to be in good shape so this is not about our code or even the developer set ups. I am concerned about user set ups and considering the effect on them.

Also, will there be a python4, if so do we go through all this again?

One issue is probably the RTEMS Tester. We had some difficulties with the TFTP Server: <https://github.com/msoulier/tftpy/pull/94> The latest tftpy seems to work only with Python 3.5, but not 3.4.

Hmmm.

Author: Chris Johns 2018-10-12T16:48:06.000Z

We need this working for a release.

Author: Chris Johns 2018-10-19T00:21:47.000Z

- **Status** changed from *assigned* to *accepted*

Author: Trac Migrate 2018-10-21T00:02:49.000Z

In [changeset:"13f4c379997b53b204d8534d198da2fa35dd5630/rtems-source-builder" 13f4c37/rtems-source-builder]:

```

1 sb: Add support to search for a suitable version of python.
2
3 The command python has been removed from upstream python and python2
4 and python3 is now used. This patch wraps the commands in a shell
5 script that locates a suitable python to run.
6
7 Updates #3537
```

Author: Trac Migrate 2018-10-24T10:46:06.000Z

In [changeset:"e2209fa1531d4e413e0b9ee425acdf0ae7d8f7f4/rtems-source-builder" e2209fa/rtems-source-builder]:

```

1 sb: Fix rtems-build-dep to handle various issues
2
3 - Remove CR characters on Windows.
4 - Force the compiler to output English so the pattern
5 matching works.
6
7 Updates #3537.

```

Author: Trac Migrate 2018-10-24T18:42:23.000Z

In [changeset:"0794cc37eba9724ab25ad8970f32ba5101bf5e1b/rtems-source-builder" 0794cc3/rtems-source-builder]:

```

1 rtems-build-dep: Add support for Cygwin
2
3 updates #3537.

```

Author: Trac Migrate 2018-11-08T22:58:32.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"e058db02816d7729e7cfa898522a6073f5d7e714/rtems-tools" e058db0/rtems-tools]:

```

1 python: Provide support to select a valid python version.
2
3 - Update imports after wrapping the code.
4 - Fix python3 issues.
5 - Fix config path issues for in repo and install runs.
6
7 Closes #3537

```

Author: Chris Johns 2018-12-17T23:59:24.000Z

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

Support for python-config needs to be added. FreeBSD 11.2-RELEASE-p5 has:

```

1 $ find /usr/local/ -name Python.h
2 /usr/local/include/python3.6m/Python.h

```

Notice the *m* in the path. The python-config command gives:

```

1 $ python3-config --includes
2 -I/usr/local/include/python3.6m -I/usr/local/include/python3.6m

```

The RSB should detect and use a suitable the python-config command to find the include paths and to use those paths before looks at default paths.

Author: Trac Migrate 2018-12-25T01:15:53.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

In [changeset:"257c9267cfce362138a265764c6a799c12c6b181/rtems-source-builder" 257c926/rtems-source-builder]:

```

1 gdb/python: Use python-config for the configuration if found.
2
3 - Do not assume the installed paths for the header and library.
4 Ask python-config if found.
5
6 Close #3537.
```

4.2.1.427 3254 - Reorganize header files to avoid "make preinstall"

Id	3254
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-11-23T12:20:43.000Z
Updated	2018-12-14T06:04:11.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::build, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3254
Merges	0

Original author: sebastian.huber

Author: Chris Johns 2017-11-24T05:25:37.000Z

Original author: sebastian.huber

Solving this problem requires:

1. Capturing the installed headers files with an MD5 checksum so each can be clearly identified in the source tree.
2. Capturing the preinstall view of the process with the install path and a source tree path.
3. Defining the include paths in RTEMS and any macros required to reference the header within that tree.

For each preinstall header we need to collate the source headers and determine what overlaps. With the define directories we want to have we can determine the moves we need. I am getting close to having this data.

Author: Trac Migrate 2017-11-27T06:34:35.000Z

Original author: sebastian.huber

In [changeset:"e58e29fdb9dc1ba516691d9df373b2bdaa480f51/rtems"
e58e29f/rtems]:

```
1 Remove coverhd.h
2
3 This header file contained timing overhead values which are hard to
4 maintain.
5
6 Update #3254.
```

Author: Trac Migrate 2017-11-27T06:34:46.000Z

Original author: sebastian.huber

In [changeset:"affb282b11d4644f12799dd2ae0fc61749a4a066/rtems"
affb282/rtems]:

```
1 bsps: Remove empty tm27.h variants
2
3 Update #3254.
```

Author: Trac Migrate 2017-11-27T06:34:58.000Z

Original author: sebastian.huber

In [changeset:"0d5c795afaf9485a02d7de0bb3282407e91c2a38/rtems"
0d5c795/rtems]:

```
1 Move Ada includes
2
3 Update #3254.
```

Author: Trac Migrate 2017-11-27T08:37:18.000Z

Original author: sebastian.huber

In [changeset:"642ef003ec0b62ede17acf5d2c4af2d2a3d35f66/rtems"
642ef00/rtems]:

```
1 bsps: Provide <tm27.h> in each BSP
2
3 Since the <tm27.h> is highly BSP-dependent and used only by the tm27
4 test program we must provide this header file for each BSP. Without the
5 preinstall build target each header file must have a unique source
6 header file.
7
8 Update #3254.
```

Author: Trac Migrate 2017-12-05T13:31:43.000Z

Original author: sebastian.huber

In [changeset:"61bd8cd65c4e01256049624d1e55348907e15435/rtems" 61bd8cd6/rtems]:

```
1 bsp/gen5200: Avoid duplicate header installation
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-07T06:17:09.000Z

Original author: sebastian.huber

In [changeset:"28fb90597f58d7970dc94db9ce8be9b0a4268df8/rtems" 28fb905/rtems]:

```
1 bsps/powerpc: Fix mpc83xx_i2cdrv.h location
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-07T06:24:20.000Z

Original author: sebastian.huber

In [changeset:"3f575da2f29de31162cbc454857889bc7e83f587/rtems" 3f575da/rtems]:

```
1 Remove obsolete network header files
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-07T10:50:19.000Z

Original author: sebastian.huber

In [changeset:"7704f1a6e3d9bceb2b3d2ae516aa66ff47069c20/rtems" 7704f1a/rtems]:


```
1 bsp/or1k: Avoid <libcpu/cache.h>
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-08T12:06:17.000Z

Original author: sebastian.huber

In [changeset:"102fd7c9538a1d2fd75fb84b5a21b14a91d532c7/rtems" 102fd7c9/rtems]:

```
1 bsp: Do not install <libcpu/cache.h>
2
3 This is a cache manager implementation header file.
4
5 Update #3254.
```

Author: Trac Migrate 2017-12-08T12:06:32.000Z

Original author: sebastian.huber

In [changeset:"e9d61145e17c1eae36a82593754133d51072e0c/rtems" e9d6114/rtems]:

```
1 bsp/gumstix: Move libcpu files to BSP
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-08T12:06:46.000Z

Original author: sebastian.huber

In [changeset:"586c70ad9b124ac396ef4ed418b5ff1f10879006/rtems" 586c70ad/rtems]:

```
1 bsp/arm: Remove obsolete s3c2400
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-08T12:06:58.000Z

Original author: sebastian.huber

In [changeset:"26ff9fd62ff694e17b3748c6c7a7fa04ea9b9157/rtems" 26ff9fd6/rtems]:

```
1 bsp/csb336: Move libcpu files to BSP
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-08T12:07:10.000Z

Original author: sebastian.huber

In [changeset:"78297109857d5203130c64d1531d5264382e6226/rtems" 7829710/rtems]:

```
1 bsp/rtl22xx: Move libcpu files to BSP
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-08T12:07:23.000Z

Original author: sebastian.huber

In [changeset:"a1460043f5ea4f56586c2ad405fe4f7ab41a77a0/rtems" a1460043/rtems]:

```
1 bsp/smdk2410: Move libcpu files to BSP
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-08T12:07:35.000Z

Original author: sebastian.huber

In [changeset:"b748dffe9cbcc8089e9774da512f01871c86035b/rtems" b748dffe/rtems]:

```
1 bsp/csb337: Move libcpu files to BSP
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-08T13:14:12.000Z

Original author: sebastian.huber

In [changeset:"604f080c2cb526593b9236b5248ca9c2cd92e9b5/rtems" 604f080c/rtems]:

```
1 bsp/shsim: Move libcpu files to BSP
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-08T13:14:25.000Z

Original author: sebastian.huber

In [changeset:"b850e7fb76d224f576de6aff2dfa65d5912e9f3f/rtems"
b850e7f/rtems]:

```
1 bsp/gensh1: Move libcpu files to BSP
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-08T13:14:39.000Z

Original author: sebastian.huber

In [changeset:"533e2c0af6dad96de5c8123206adebea2fbb06d2/rtems"
533e2c0/rtems]:

```
1 bsp/gensh2: Move libcpu files to BSP
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-08T13:14:51.000Z

Original author: sebastian.huber

In [changeset:"f2969b5392e131528ac76b3d3ca877faf3535e34/rtems"
f2969b5/rtems]:

```
1 bsp/gensh4: Move libcpu files to BSP
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:07:50.000Z

Original author: sebastian.huber

In [changeset:"8e8cf723a3c7048e4418781a494cba82042b645b/rtems"
8e8cf72/rtems]:

```
1 arm: Move <libcpu/arm-cp15.h> to cpukit
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:08:02.000Z

Original author: sebastian.huber

In [changeset:"6ad3f4714370e652d972c64c02b65d42789b346f/rtems" 6ad3f471/rtems]:

```
1 libdebugger: Avoid use of <bsp/linker-symbols.h>
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:08:14.000Z

Original author: sebastian.huber

In [changeset:"a397c7d8bc29aca1c67d926077e4b385d3e2aa66/rtems" a397c7d8/rtems]:

```
1 IMFS: Include <rtems/imfs.h>
2
3 Prepare for header file move to common include directory.
4
5 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:08:27.000Z

Original author: sebastian.huber

In [changeset:"339069fc816e85a1205717581be688472b90feb6/rtems" 339069fc/rtems]:

```
1 devfs: Include <rtems/devfs.h>
2
3 Prepare for header file move to common include directory.
4
5 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:08:39.000Z

Original author: sebastian.huber

In [changeset:"51a30a4b73205224f2c25530b36fc53f920c5fd3/rtems" 51a30a4/rtems]:

```
1 ftpd: Include <rtems/ftpd.h>
2
3 Prepare for header file move to common include directory.
4
5 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:08:50.000Z

Original author: sebastian.huber

In [changeset:"7683da88e46f620869cc537ae40d05cef2d4b1b8/rtems" 7683da8/rtems]:

```
1 dosfs: Include <rtems/dosfs.h>
2
3 Prepare for header file move to common include directory.
4
5 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:09:02.000Z

Original author: sebastian.huber

In [changeset:"7d9455edfe5d9b6ee775a71d1a1a51e6bb1f74af/rtems" 7d9455e/rtems]:

```
1 pipe: Include <rtems/pipe.h>
2
3 Prepare for header file move to common include directory.
4
5 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:09:14.000Z

Original author: sebastian.huber

In [changeset:"990adc543816dbba116a8ada21fa3401c655bf4b/rtems" 990adc5/rtems]:

```
1 libdl: Include <rtems/rtl/rtl-*.h>
2
3 Prepare for header file move to common include directory.
4
5 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:09:26.000Z

Original author: sebastian.huber

In [changeset:"295ca7ded068dc5e3efaf97374be53d50c6be082/rtems" 295ca7d/rtems]:

```
1 RFS: Include <rtems/rtems-rfs-shell.h>
2
3 Prepare for header file move to common include directory.
4
5 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:09:39.000Z

Original author: sebastian.huber

In [changeset:"249730ded2b122483be702a512ef85739ce57839/rtems" 249730de/rtems]:

```
1 capture: Include <rtems/captureimpl.h>
2
3 Prepare for header file move to common include directory.
4
5 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:09:50.000Z

Original author: sebastian.huber

In [changeset:"47f236c67a6caf6a4beee2d1c057168e61028140/rtems" 47f236c6/rtems]:

```
1 monitor: Include <rtems/monitor.h>
2
3 Prepare for header file move to common include directory.
4
5 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:10:02.000Z

Original author: sebastian.huber

In [changeset:"4a23aa4528afc41a52c5f2b56015be3c09a3a1e3/rtems" 4a23aa45/rtems]:

```
1 shell: Include <rtems/shell.h>
2
3 Prepare for header file move to common include directory.
4
5 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:10:14.000Z

Original author: sebastian.huber

In [changeset:"a1626726113701fd4bc72231a49483a799f5bb59/rtems" a1626726/rtems]:

```
1 redirector: Include <rtems/stdio-redirect.h>
2
3 Prepare for header file move to common include directory.
4
5 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:10:26.000Z

Original author: sebastian.huber

In [changeset:"f666fc59287d4b8e12c8e20fd7d68eab0395bfda/rtems" f666fc59/rtems]:

```
1 utf8proc: Include <utf8proc/utf8proc.h>
2
3 Prepare for header file move to common include directory.
4
5 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:10:38.000Z

Original author: sebastian.huber

In [changeset:"edfdc42a89925c21f46806fab833353af1fa4fb2/rtems" edfdc42/rtems]:

```
1 uuid: Include <uuid/uuid.h>
2
3 Prepare for header file move to common include directory.
4
5 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:10:50.000Z

Original author: sebastian.huber

In [changeset:"9589755f771099e24255f0d2c972f6704d659b79/rtems" 9589755f/rtems]:

```
1 mghttpd: Include <mghttpd/mongoose.h>
2
3 Prepare for header file move to common include directory.
4
5 Update #3254.
```

Author: Trac Migrate 2017-12-13T08:11:03.000Z

Original author: sebastian.huber

In [changeset:"5346fa875cda3109ec48bcc04522c9cf21169b0d/rtems" 5346fa87/rtems]:

```
1 pppd: Include <rtems/rtems*.h>
2
```

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```

3 Prepare for header file move to common include directory.
4
5 Update #3254.

```

Author: Trac Migrate 2017-12-13T08:11:15.000Z

Original author: sebastian.huber

In [changeset:"94e04b533d0e7dac486d5be29d8607b4eb88ea/rtems" 94e04b5/rtems]:

```

1 telnetd: Include <rtems/passwd.h>
2
3 Prepare for header file move to common include directory.
4
5 Update #3254.

```

Author: Trac Migrate 2017-12-13T08:26:41.000Z

Original author: sebastian.huber

In [changeset:"241fc046a7135d8f863bcc7d33e4d877ca43e6ea/rtems" 241fc046/rtems]:

```

1 zlib: Do not generate zconf.h
2
3 Update #3254.

```

Author: Trac Migrate 2017-12-13T08:33:00.000Z

Original author: sebastian.huber

In [changeset:"d19e7aab4bdad8cf617d76adcf460ea53e55bb05/rtems" d19e7aab/rtems]:

```

1 zlib: Fix build
2
3 Update #3254.

```

Author: Trac Migrate 2017-12-14T07:13:31.000Z

Original author: sebastian.huber

In [changeset:"12641f7b13c79d71ba9b5548c41884aabf4a98b9/rtems" 12641f7b/rtems]:


```

1 epiphany: Remove superfluous includes
2
3 Update #3254.
```

Author: Trac Migrate 2017-12-15T06:23:48.000Z

Original author: sebastian.huber

In [changeset:"2717032d82ec7289298f33d0bd9fde6d72c274f6/rtems" 2717032d/rtems]:

```

1 bsp/arm: Fix move <libcpu/arm-cp15.h> to cpukit
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-04T06:19:08.000Z

Original author: sebastian.huber

In [changeset:"f3ce8f41b6062c0463bc81a9885a9c6bd91ca4e6/rtems" f3ce8f41/rtems]:

```

1 bsp: Include bsp.am in all BSP Makefile.am
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-04T06:19:21.000Z

Original author: sebastian.huber

In [changeset:"33a2faaa6802a80e23991a7b106acf7292ba9272/rtems" 33a2faa/rtems]:

```

1 bsp: Add EXTRA_DIST to all BSP Makefile.am
2
3 This makes it possible to easily use
4
5 EXTRA_DIST += foobar
6
7 in fragments.
8
9 Update #3254.
```

Author: Trac Migrate 2018-01-04T06:19:35.000Z

Original author: sebastian.huber

In [changeset:"ec32100797b0a55cfcf372c89d41de3fad598ff5/rtems"
ec32100/rtems]:

```
1 bsp: Use CPPASCOMPILE for startfile
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-04T06:19:59.000Z

Original author: sebastian.huber

In [changeset:"e1c0d676d79da20bb5140043d388e2d9aa815421/rtems"
e1c0d67/rtems]:

```
1 bsp/mpc55xxevb: Move <bsp/irq.h>
2
3 Update #3254.
4 Update #3268.
```

Author: Trac Migrate 2018-01-04T06:20:11.000Z

Original author: sebastian.huber

In [changeset:"7190005abb07d1142802edde357cfbe0fe07cc54/rtems"
7190005/rtems]:

```
1 sparc: Move <libcpu/byteorder.h>
2
3 Update #3254.
4 Update #3260.
```

Author: Trac Migrate 2018-01-04T06:20:23.000Z

Original author: sebastian.huber

In [changeset:"3b392b6113fd3baae8cd9e1c7790fb051cbca54f/rtems"
3b392b6/rtems]:

```
1 sparc: Remove BSP specifics from <pci/access.h>
2
3 Update #3254.
4 Update #3260.
```

Author: Trac Migrate 2018-01-04T06:20:36.000Z

Original author: sebastian.huber

In [changeset:"569fd5097c4853136728f5a43b1706a8c4a253e5/rtems"
569fd50/rtems]:

```

1 sparc: Remove BSP specifics from <pci/irq.h>
2
3 Update #3254.
4 Update #3260.
5 Update #3269.

```

Author: Trac Migrate 2018-01-04T06:20:49.000Z

Original author: sebastian.huber

In [changeset:"4e100058cc621f52635525cec2965e6ea7579d7b/rtems" 4e100058/rtems]:

```

1 sparc: Remove <bsp.h> from PCI shell command
2
3 Update #3254.
4 Update #3260.

```

Author: Trac Migrate 2018-01-04T06:21:02.000Z

Original author: sebastian.huber

In [changeset:"fb01816bd24b6398d717a69d2b95327ffb8607d5/rtems" fb01816b/rtems]:

```

1 bsps/powerpc: Move shared irq.h
2
3 This header file is only used by motorola_powerpc, so not shared.
4
5 Update #3254.
6 Update #3268.

```

Author: Trac Migrate 2018-01-04T06:21:14.000Z

Original author: sebastian.huber

In [changeset:"375e923d248df3042f5dc839a229903199e3f3fd/rtems" 375e923d/rtems]:

```

1 bsps/powerpc: Rename BSP specific linkcmds.base
2
3 Avoid name conflicts with shared linkcmds.base.
4
5 Update #3254.

```

Author: Trac Migrate 2018-01-05T10:58:11.000Z

Original author: sebastian.huber

In [changeset:"f636e91a5d49a3d6bcd099e8a8631c7d169dbec/rtems" f636e91a/rtems]:

```
1 bsp/pc386: Do not install console_private.h
2
3 The name suggests that this is a private implementation header file.
4
5 Update #3254.
```

Author: Trac Migrate 2018-01-05T10:58:22.000Z

Original author: sebastian.huber

In [changeset:"6897cb1d7c3a5b661de77098e83c0f2b5174dfd0/rtems" 6897cb1/rtems]:

```
1 bsps: Add AM_CPPFLAGS to special case CPPFLAGS
2
3 This is necessary to pick up mandatory flags provided by the build
4 system.
5
6 Update #3254.
```

Author: Trac Migrate 2018-01-05T10:58:46.000Z

Original author: sebastian.huber

In [changeset:"3eed4f30e431737a9b54a0e0db3d585cf8fad9b2/rtems" 3eed4f3/rtems]:

```
1 bsp/altera-cyclone-v: Use public include path
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-05T10:58:57.000Z

Original author: sebastian.huber

In [changeset:"1efd148be1af4abefbfabd922f2d14d9495b461a/rtems" 1efd148b/rtems]:

```
1 bsp/pc386: Use public include path
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-05T10:59:09.000Z

Original author: sebastian.huber

In [changeset:"9c91520ad6e2421899fe17e08e35604deabbac69/rtems"9c91520/rtems]:

```
1 bsp/lm32: Use public include path
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-05T10:59:22.000Z

Original author: sebastian.huber

In [changeset:"caea2673b28cbe38a834437a5eb9c53aca6d4a/rtems"caea26/rtems]:

```
1 bsp/gen5200: Use public include path
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-05T10:59:34.000Z

Original author: sebastian.huber

In [changeset:"230acc55a6fd958f41ce78b1021463824da8c6cf/rtems"230acc55/rtems]:

```
1 libchip: Use public include path
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-05T10:59:46.000Z

Original author: sebastian.huber

In [changeset:"e2cf2893576e55ccdf14d74e95ea2c72fec5f38d/rtems"e2cf289/rtems]:

```
1 bsp/mcf548x: Use public include path
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-05T10:59:58.000Z

Original author: sebastian.huber

In [changeset:"010bf863aafc3eab5438159ce0ff2224943cce09/rtems"010bf86/rtems]:

```
1 bsp/powerpc: Use public include path
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-05T11:00:11.000Z

Original author: sebastian.huber

In [changeset:"9dd2fdb970c504ebceddffa24b665581bd95d8bf/rtems" 9dd2fdb9/rtems]:

```
1 bsp/bfin: Use public include path
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-05T11:00:23.000Z

Original author: sebastian.huber

In [changeset:"3964329048545de5932a6cb246a86c56a52b4f7e/rtems" 3964329/rtems]:

```
1 bsp/beatnik: Use public include path
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-05T11:00:35.000Z

Original author: sebastian.huber

In [changeset:"731abf4afe693c8e359d8b1283811ee0987edc88/rtems" 731abf4/rtems]:

```
1 bsp/mvme3100: Use public include path
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-05T11:00:47.000Z

Original author: sebastian.huber

In [changeset:"26ac19c6061920a80b4cc73fa7df8e8741468d6e/rtems" 26ac19c/rtems]:

```
1 bsp/powerpc: Use public include path
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-05T11:00:59.000Z

Original author: sebastian.huber

In [changeset:"f4dc9737299f8a2d2ee0b343e6bd38680d1825e0/rtems"
f4dc9737/rtems]:

```
1 bsp: Use public include path
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-05T11:01:11.000Z

Original author: sebastian.huber

In [changeset:"8428b4033ce17213acdbca80acba394372eb4f23/rtems"
8428b40/rtems]:

```
1 bsp/edb7312: Use public include path
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-05T11:01:23.000Z

Original author: sebastian.huber

In [changeset:"816f999fec2a49683597bd935e2de1f1f8d62cae/rtems"
816f999f/rtems]:

```
1 bsp/i386: Fix AC_CONFIG_SRCDIR()
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-05T11:01:35.000Z

Original author: sebastian.huber

In [changeset:"a7b0da2ba340c7f96c63f15315f4c31701116fab/rtems"
a7b0da2/rtems]:

```
1 bsp/mips: Fix AC_CONFIG_SRCDIR()
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-05T11:01:47.000Z

Original author: sebastian.huber

In [changeset:"7cd389e84393ded9100be8c4a82c58892420c696/rtems" 7cd389e/rtems]:

```
1 bsp/m68k: Install shared <mvme16x_hw.h>
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-15T06:26:20.000Z

Original author: sebastian.huber

In [changeset:"a67f44c66ec819e848a3ae52c92badf00b0b1d31/rtems" a67f44c/rtems]:

```
1 bsp/lm32: Do not include network headers in bsp.h
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-15T06:26:32.000Z

Original author: sebastian.huber

In [changeset:"4b1243666b3397d53f221218f96e1ab2e7e83d5a/rtems" 4b12436/rtems]:

```
1 libchip: Use public include path
2
3 Update #3254.
```

Author: Trac Migrate 2018-01-15T06:26:44.000Z

Original author: sebastian.huber

In [changeset:"0d08844af90d650ab83a28c4093e0aed3095ff9d/rtems" 0d08844/rtems]:

```
1 bsp: Add AM_CPPFLAGS to special case CPPFLAGS
2
3 This is necessary to pick up mandatory flags provided by the build
4 system.
5
6 Update #3254.
```

Author: Trac Migrate 2018-01-16T09:44:27.000Z

Original author: sebastian.huber

In [changeset:"47cc206822473bdd4a9a78f3baee37ec1948ca8d/rtems" 47cc206/rtems]:


```

1 bsp/powerpc: Move BSP specific file to BSP
2
3 Update #3254.

```

Author: Trac Migrate 2018-01-22T06:06:19.000Z

Original author: sebastian.huber

In [changeset:"d898f6e18ec2e84977edb5024052ecca64cf39f3/rtems"
d898f6e/rtems]:

```

1 bsp/gen5200: Fix i2c.h and i2cdrv.h installation
2
3 Install these files only as <bsp/i2c.h> and <bsp/i2cdrv.h>.
4
5 Update #3254.

```

Author: Trac Migrate 2018-01-22T09:38:31.000Z

Original author: sebastian.huber

In [changeset:"17fd0ff0cd8e7bbf1a6be6a5a8049bb55be0d693/rtems"
17fd0ff/rtems]:

```

1 bsp: Move wd80x3.h to libchip/wd80x3.h
2
3 This header is used also by the motorola_powerpc BSP.
4
5 Update #3254.

```

Author: Trac Migrate 2018-01-22T12:17:07.000Z

Original author: sebastian.huber

In [changeset:"e79bb0c3bb9b977e486a7c7850c61d9b2f363429/rtems"
e79bb0c3/rtems]:

```

1 bsp/gen5200: Use public include path
2
3 Update #3254.

```

Author: Trac Migrate 2018-01-25T09:17:03.000Z

Original author: sebastian.huber

In [changeset:"2afb22b7e1ebcbe40373ff7e0efae7d207c655a9/rtems"
2afb22b/rtems]:

```
1 Remove make preinstall
2
3 A speciality of the RTEMS build system was the make preinstall step. It
4 copied header files from arbitrary locations into the build tree. The
5 header files were included via the -Bsome/build/tree/path GCC command
6 line option.
7
8 This has at least seven problems:
9
10 * The make preinstall step itself needs time and disk space.
11
12 * Errors in header files show up in the build tree copy. This makes it
13 hard for editors to open the right file to fix the error.
14
15 * There is no clear relationship between source and build tree header
16 files. This makes an audit of the build process difficult.
17
18 * The visibility of all header files in the build tree makes it
19 difficult to enforce API barriers. For example it is discouraged to
20 use BSP-specifics in the cpukit.
21
22 * An introduction of a new build system is difficult.
23
24 * Include paths specified by the -B option are system headers. This
25 may suppress warnings.
26
27 * The parallel build had sporadic failures on some hosts.
28
29 This patch removes the make preinstall step. All installed header
30 files are moved to dedicated include directories in the source tree.
31 Let @RTEMS_CPU@ be the target architecture, e.g. arm, powerpc, sparc,
32 etc. Let @RTEMS_BSP_FAMILY@ be a BSP family base directory, e.g.
33 erc32, imx, qorIQ, etc.
34
35 The new cpukit include directories are:
36
37 * cpukit/include
38
39 * cpukit/score/cpu/@RTEMS_CPU@/include
40
41 * cpukit/libnetworking
42
43 The new BSP include directories are:
44
45 * bsps/include
46
47 * bsps/@RTEMS_CPU@/include
48
49 * bsps/@RTEMS_CPU@/@RTEMS_BSP_FAMILY@/include
50
```

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```

51 There are build tree include directories for generated files.
52
53 The include directory order favours the most general header file, e.g.
54 it is not possible to override general header files via the include path
55 order.
56
57 The "bootstrap -p" option was removed. The new "bootstrap -H" option
58 should be used to regenerate the "headers.am" files.
59
60 Update #3254.

```

Author: Trac Migrate 2018-03-09T07:44:27.000Z

Original author: sebastian.huber

In [changeset:"16f4661fd1fd13b7b5ce63756e0cbfd20843aa75/rtems" 16f4661f/rtems]:

```

1 network: Optionally install network headers
2
3 Install the network headers only if --enable-networking is specified.
4
5 Update #3254.

```

Author: Trac Migrate 2018-03-21T06:59:00.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

The header reorganization is complete.

Author: Trac Migrate 2018-03-28T05:21:29.000Z

Original author: sebastian.huber

In [changeset:"fc9db4c26eb66b1b94f79617d850d2b0f161c00e/rtems-docs" fc9db4c/rtems-docs]:

```

1 user: Do not mention "bootstrap -p"
2
3 It is now obsolete and was never necessary for an RTEMS users.
4
5 Update #3254.

```

Author: Trac Migrate 2018-04-11T03:28:15.000Z

Original author: sebastian.huber

In [changeset:"b8c59353552c2504c0e71e1f6f81dfa4b2a96e37/rtems" b8c59353/rtems]:

```
1 build: Fix make clean.
2
3 Update #3254.
```

Author: Trac Migrate 2018-11-08T15:26:52.000Z

Original author: sebastian.huber

In [changeset:"edc4ff6a928ad2de97b44a071d3d897e18c0d726/rtems-docs" edc4ff6/rtems-docs]:

```
1 user: Remove obsolete bootstrap -p step
2
3 Update #3254.
```

Author: Trac Migrate 2018-12-14T06:04:11.000Z

Original author: sebastian.huber

In [changeset:"6b0a729bfd61a84097ca8d32c3ae9a2262fc288f/rtems" 6b0a729b/rtems]:

```
1 build: Remove ampolish3
2
3 Update #3254.
```

4.2.1.428 3626 - sigtimedwait() needed when POSIX is disabled

Id	3626
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-11-27T14:45:01.000Z
Updated	2018-11-30T14:37:09.000Z
Milestone	5.1
Labels	api::posix, priority::high, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3626
Merges	0

When POSIX is disabled, psxmsgq01 does not link. Should we enable sigtimedwait() when POSIX is disabled or disable this test?

```

1 /data/home/joel/rtems-work/tools/5/bin/./lib/gcc/powerpc-rtems5/7.3.0/../../../../
  ↳/powerpc-rtems5/bin/ld: psxmsgq01/psxmsgq01-init.o: in function `wait_for_signal
  ↳':
2 /home/joel/rtems-work/rtems-testing/rtems/build-powerpc-ss555-rtems/powerpc-
  ↳rtems5/c/ss555/testsuites/psxtests/../../../../rtems/c/src/../../../../
  ↳testsuites/psxtests/psxmsgq01/init.c:932: undefined reference to `sigtimedwait'

```

Author: Trac Migrate 2018-11-28T06:15:05.000Z

I would not enable signals by default. The signal implementation in RTEMS is quite bad.

The test should be only enabled if the POSIX API is enabled.

Author: Joel Sherrill 2018-11-29T22:35:32.000Z

This is weirder than it seems. Only these BSPs fail to build:

m68k-mcf5206elite m68k-mcf52235 m68k-mrm332 moxie-moxiesim powerpc-haleakala powerpc-mpc8260ads powerpc-qemuppc powerpc-qoriq_e6500_64 powerpc-ss555

I have built every BSP and those fail. Why only those?

And I don't disagree about no signals with POSIX is disabled. But you can't disable the entirety of psxmsgq01. It tests a lot more than just mq_notify().

Author: Joel Sherrill 2018-11-29T23:40:03.000Z

Looks like not enough is disabled based on POSIX API being unavailable. I have ss555 building and will build all overnight to see if that resolves it. ss555 does have a gcc option for no-inline set. I wonder if the others do also. Maybe a weird optimization difference leaving the method in

Author: Trac Migrate 2018-11-30T14:37:09.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"e54a266edef25dfa195934b61184276a82cd6ac6/rtems" e54a266e/rtems]:

```

1 psxmsgq01/init.c: Disable signal usage when POSIX disabled
2
3 closes #3626.

```

4.2.1.429 3622 - Remove cache routines working with a processor set

Id	3622
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-26T12:57:27.000Z
Updated	2018-11-28T13:54:28.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3622
Merges	0

Original author: sebastian.huber

The following cache manager API functions are exotic, complex, very hard to use correctly, not used in the RTEMS code base, and apparently unused by applications (<https://lists.rtems.org/pipermail/users/2018-November/032764.html>). Remove these functions

```

1 /**
2  * @brief Flushes multiple data cache lines for a set of processors
3  *
4  * Dirty cache lines covering the area are transferred to memory.
5  * Depending on the cache implementation this may mark the lines as invalid.
6  *
7  * This operation should not be called from interrupt context.
8  *
9  * @param[in] addr The start address of the area to flush.
10 * @param[in] size The size in bytes of the area to flush.
11 * @param[in] setsize The size of the processor set.
12 * @param[in] set The target processor set.
13 */
14 void rtems_cache_flush_multiple_data_lines_processor_set(
15   const void *addr,
16   size_t size,
17   const size_t setsize,
18   const cpu_set_t *set
19 );
20
21 /**
22 * @brief Invalidates multiple data cache lines for a set of processors
23 *
24 * The cache lines covering the area are marked as invalid. A later read
25 * access in the area will load the data from memory.
26 *
27 * In case the area is not aligned on cache line boundaries, then this
28 * operation may destroy unrelated data.
29 *
30 * This operation should not be called from interrupt context.

```

(continues on next page)

(continued from previous page)

```

31 *
32 * @param[in] addr The start address of the area to invalidate.
33 * @param[in] size The size in bytes of the area to invalidate.
34 * @param[in] setsize The size of the processor set.
35 * @param[in] set The target processor set.
36 */
37 void rtems_cache_invalidate_multiple_data_lines_processor_set(
38 const void *addr,
39 size_t size,
40 const size_t setsize,
41 const cpu_set_t *set
42 );
43
44 /**
45 * @brief Flushes the entire data cache for a set of processors
46 *
47 * This operation should not be called from interrupt context.
48 *
49 * @see rtems_cache_flush_multiple_data_lines().
50 *
51 * @param[in] setsize The size of the processor set.
52 * @param[in] set The target processor set.
53 */
54 void rtems_cache_flush_entire_data_processor_set(
55 const size_t setsize,
56 const cpu_set_t *set
57 );
58
59 /**
60 * @brief Invalidates the entire cache for a set of processors
61 *
62 * This function is responsible for performing a data cache
63 * invalidate. It invalidates the entire cache for a set of
64 * processors.
65 *
66 * This operation should not be called from interrupt context.
67 *
68 * @param[in] setsize The size of the processor set.
69 * @param[in] set The target processor set.
70 */
71 void rtems_cache_invalidate_entire_data_processor_set(
72 const size_t setsize,
73 const cpu_set_t *set
74 );

```

Author: Trac Migrate 2018-11-27T07:09:13.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”0a75a4aa65d3fdc5b79cfa4bc35c56aada2bf3ae/rtems”
0a75a4aa/rtems]:

```
1 Remove rtems_cache_*_processor_set() functions
2
3 The following rtems_cache_*_processor_set() cache manager API functions
4 are exotic, complex, very hard to use correctly, not used in the RTEMS
5 code base, and apparently unused by applications.
6
7 Close #3622.
```

Author: Trac Migrate 2018-11-28T13:54:28.000Z

Original author: sebastian.huber

In [changeset:”5bf0c1a4fa5a07ab25273bc1a1abfbf53746d200/rtems”
5bf0c1a/rtems]:

```
1 bsp/sparc: Fix SMP build
2
3 Update #3622.
```

4.2.1.430 3358 - Deprecate rtems_disk_create_phys(), etc.

Id	3358
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-03-22T06:10:15.000Z
Updated	2018-11-27T11:46:37.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3358
Merges	0

Original author: sebastian.huber

There are currently two implementations of a block device (disk). Deprecate the legacy `rtems_disk_create_phys()`, etc. implementation. Remove all RTEMS internal uses except in the `block01` test. Add `RTEMS_DEPRECATED` attribute to API.

Author: Trac Migrate 2018-05-18T08:45:25.000Z

Original author: sebastian.huber

In [changeset:"30c389849d1fecec4b2940b0f1e9101ae3ae04a8/rtems" 30c3898/rtems]:

```
1 libblock: Init deps in rtems_blkdev_create()
2
3 Update #3358.
```

Author: Trac Migrate 2018-05-18T08:45:35.000Z

Original author: sebastian.huber

In [changeset:"c4d35fb6c8297d08ff8f34b2038f644a012773c5/rtems" c4d35fb/rtems]:

```
1 libchip: Use rtems_blkdev_create()
2
3 Update #3358.
```

Author: Trac Migrate 2018-05-18T08:45:45.000Z

Original author: sebastian.huber

In [changeset:"70502b480aaa1afe7b8347d221773296d1b22c31/rtems" 70502b48/rtems]:

```
1 libtests/block05: Use rtems_blkdev_create()
2
3 Update #3358.
```

Author: Trac Migrate 2018-08-06T07:06:35.000Z

Original author: sebastian.huber

- **Milestone** changed from %"6.1" to %"5.1"
- **Version** set to ~"5"

Author: Trac Migrate 2018-08-07T05:40:22.000Z

Original author: sebastian.huber

In [changeset:"24b94c47713bbaadd8b8a876a2e7c7f3a9def5d8/rtems" 24b94c4/rtems]:

```
1 ramdisk: Use rtems_blkdev_create()
2
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:40:32.000Z

Original author: sebastian.huber

In [changeset:"16f3f107bcd8101aebb6c8cfda067d92b0a48ae9/rtems" 16f3f10/rtems]:

```
1 nvdisk: Use rtems_blkdev_create()
2
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:40:42.000Z

Original author: sebastian.huber

In [changeset:"0fe7133d6e9daa3e18b48a2491e4c29c5c71d5aa/rtems" 0fe7133/rtems]:

```
1 flashdisk: Use rtems_blkdev_create()
2
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:40:53.000Z

Original author: sebastian.huber

In [changeset:"1dec54f90c800b9a2a666b6502c3ec1137a122e3/rtems" 1dec54f9/rtems]:

```
1 bsp/lm32: Use rtems_blkdev_create()
2
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:41:03.000Z

Original author: sebastian.huber

In [changeset:"d279e747a7ef8291bf76441b23f8243d418a6e83/rtems" d279e74/rtems]:

```
1 bsp/smdk2410: Use rtems_blkdev_create()
2
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:41:13.000Z

Original author: sebastian.huber

In [changeset:"678277132b84c5e8da5e2c935a4202097698a50d/rtems" 6782771/rtems]:

```
1 libtests/block05: Avoid uninitialized variable
2
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:41:24.000Z

Original author: sebastian.huber

In [changeset:"bde8be291e614d3dfbca1adb2ee722c23cb51c39/rtems"
bde8be2/rtems]:

```
1 libtests/block06: Use rtems_blkdev_create()
2
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:41:34.000Z

Original author: sebastian.huber

In [changeset:"117f7b1f670ab88ab256e596dd289743678b3bb7/rtems"
117f7b1/rtems]:

```
1 libtests/block08: Use rtems_blkdev_create()
2
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:41:44.000Z

Original author: sebastian.huber

In [changeset:"5005bfcccd0200976679a45dbad274adb797f455/rtems"
5005bfc/rtems]:

```
1 libtests/block09: Use rtems_blkdev_create()
2
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:41:55.000Z

Original author: sebastian.huber

In [changeset:"6f34f1391ef413df64573aa9f1a5c3bef1cfbcce/rtems"
6f34f13/rtems]:

```
1 libtests/block10: Use rtems_blkdev_create()
2
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:42:06.000Z

Original author: sebastian.huber

In [changeset:"5e4bab7769c6d6cb791a2f8b2c3bd6f47ae1a010/rtems"
5e4bab7/rtems]:

```
1 libtests/block12: Use rtems_blkdev_create()  
2  
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:42:16.000Z

Original author: sebastian.huber

In [changeset:"3278d202004a0d37abfbc9a24845b2e00e967ce8/rtems"
3278d20/rtems]:

```
1 libtests/block13: Use rtems_blkdev_create()  
2  
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:42:27.000Z

Original author: sebastian.huber

In [changeset:"fa12e06d333594fbf3dda81933af625a4aaff193/rtems"
fa12e06d/rtems]:

```
1 libtests/block14: Use rtems_blkdev_create()  
2  
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:42:37.000Z

Original author: sebastian.huber

In [changeset:"bf802790255aa5e155effdb97fc28010ddd82c26/rtems"
bf80279/rtems]:

```
1 libtests/block15: Use rtems_blkdev_create()  
2  
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:42:47.000Z

Original author: sebastian.huber

In [changeset:"698093d68dbe7d0085103e9b2f8edfdc2b366d30/rtems" 698093d/rtems]:

```
1 libblock: Use rtems_blkdev_create_partition()
2
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:42:57.000Z

Original author: sebastian.huber

In [changeset:"f7cecc3308a9348c598f0cb7fe35dcf9ea3392d4/rtems" f7cecc33/rtems]:

```
1 libchip/ata: Use rtems_blkdev_create()
2
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:43:08.000Z

Original author: sebastian.huber

In [changeset:"1836c6a456b52e0ec39bddc3164d2b0b46746b3c/rtems" 1836c6a/rtems]:

```
1 bsp/gen5200: Avoid deprecated routine
2
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:43:18.000Z

Original author: sebastian.huber

In [changeset:"dd66fda39736135b40a99cccf1f5aabc1028c560/rtems" dd66fda/rtems]:

```
1 tests: Avoid deprecated rtems_disk_io_initialize()
2
3 Update #3358.
```

Author: Trac Migrate 2018-08-07T05:43:28.000Z

Original author: sebastian.huber

In [changeset:"ab96aec60a1ea393f42dcc8f6fde78ed7b3705d9/rtems" ab96aec/rtems]:

```

1 dosfs: Avoid deprecated routine
2
3 Update #3358.

```

Author: Trac Migrate 2018-08-07T05:43:38.000Z

Original author: sebastian.huber

In [changeset:"b152d33ba5f6dc8c3250232b2e09f7df098471cb/rtems" b152d33/rtems]:

```

1 fileio: Avoid deprecated rtems_disk_obtain()
2
3 Update #3358.

```

Author: Trac Migrate 2018-08-07T05:43:49.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"0b038bd48b77a650fdc1a74add55523b524b8dac/rtems" 0b038bd4/rtems]:

```

1 libblock: Add RTEMS_DEPRECATED
2
3 Close #3358.

```

Author: Trac Migrate 2018-09-06T05:05:10.000Z

Original author: sebastian.huber

In [changeset:"ccdce9d8f6c38748747a1346d3a42683fa5c9328/rtems" ccdce9d8/rtems]:

```

1 libchip/ata: Fix ATA_DRIVER_TABLE_ENTRY
2
3 Drop unused and deprecated functions from the ATA_DRIVER_TABLE_ENTRY.
4
5 Update #3358.
6 Close #3510.

```

Author: Trac Migrate 2018-11-27T11:46:37.000Z

Original author: sebastian.huber

In [changeset:"06331e4dcb2495d323964cde4a5835110a6ed023/rtems" 06331e4/rtems]:

```
1 dosfs: Fix device identifier
2
3 Update #3358.
```

4.2.1.431 3625 - RTL Allows Unloading a Module other Modules Depend Upon (cloned)

Id	3625
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2018-11-27T06:15:09.000Z
Updated	2018-11-27T06:15:37.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3625
Merges	0

Original author: Kevin Gordon

Cloned from [#3195](#):

Consider the following example using ELF .o files from compiled source files module-0.c and module-1.c from ticket [#3194](#):

module-0.o is loaded using dlopen() with no code or data dependencies. module-1.o is loaded using dlopen() with both code and data dependencies on module-0 which are resolved by RTL.

The RTL function dlclose() returns no error when module-0 is unloaded, when it should return an error and not unload module-0. This becomes quite dangerous because a subsequent call to module1Function1() in the currently-loaded module-1.o, which accesses shared_resource_0[] and calls module0Function0(), will result in an unexpected trap on qemu or the call succeeding with the correct return value on hardware when it should not.

The erroneous successful unload() of module-0 aside, it appears as though the resources are not actually deleted and I believe this ticket is related to tickets [#3192](#) and [#3194](#).

Architecture is sparc-leon3 using both the RTEMS 4.11.1 public release and rtems master [@f043b9bd3bf25626fb1a311dd7fa041eacc68adc](#) with rtems-source-builder [@55f2d69e9b67cde23d61375fa34ef5b0f04a985d](#).

Execution environments are qemu-system-sparc and LEON3 UT700 hardware.

Author: Chris Johns 2018-11-27T06:15:37.000Z

Original author: Kevin Gordon

- **Resolution** set to ~"fixed"

- **Status** changed from *assigned* to *closed*

This has been fixed on master for RTEMS 5.

4.2.1.432 3612 - RTL unresolved compaction does not update string indexes after removing a string

Id	3612
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2018-11-19T04:21:17.000Z
Updated	2018-11-27T06:13:13.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3612
Merges	0

The RTL unresolved compaction does not update the string indexes when compacting.

Author: Chris Johns 2018-11-27T06:13:13.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.433 2922 - libdl unresolved externals that use more than one block or multiple entries corrupts.

Id	2922
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-03-09T03:00:21.000Z
Updated	2018-11-27T06:12:50.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2922
Merges	0

If there are lots of unresolved externals the unresolved block structure get confused and the can lock up looking for a new slot to add an unresolved external.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Chris Johns 2018-10-14T00:52:20.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *accepted*

Author: Chris Johns 2018-11-27T06:12:50.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

4.2.1.434 3604 - RTL Unresolved Symbols from common section on i386/pc686 (cloned)

Id	3604
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Chris Johns
Created	2018-11-13T06:13:24.000Z
Updated	2018-11-27T06:12:05.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3604
Merges	0

Original author: jphickey

Cloned from [#3527](#):

By default GCC puts uninitialized global variables into a common section in the ELF file. When attempting to load the resulting ELF file at runtime using `dlopen()`, these global symbols are not resolved as expected.

The RTL reports unresolved symbols, and runtime code that take the address of the global get NULL instead.

This is reproducible using the libtests/dl01 example by adding a global variable to the module code. I will attach a patch that replicates the issue.

Test platform is QEMU using pc686 BSP, RTEMS source version 4.11.3 (latest on 4.11 git branch as of this writing)

Author: Chris Johns 2018-11-13T06:14:16.000Z

Original author: jphickey

- **Owner** set to @chrisj
- **Status** changed from *new* to *accepted*

Author: Trac Migrate 2018-11-22T02:17:39.000Z

Original author: jphickey

In [changeset:"803eac954ed7a3481c6af9b020d5d25419d3a19d/rtems" 803eac9/rtems]:

```

1 libdl: Manage the allocation of common uninitialised variables.
2
3 The use of separate text and data results in uninitialised variables
4 being placed in the common section. There is no section in ELF for
5 the common variables so the loader needs to create the section and
6 allocate the variables in that section. This patch does that.
7
8 The patch adds a second pass over the symbols.
9
10 The issue can also be seen as a section 65522 error.
11
12 Updates #3604

```

Author: Chris Johns 2018-11-27T06:12:05.000Z

Original author: jphickey

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

4.2.1.435 3599 - Remove m32c architecture port

Id	3599
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-08T15:15:01.000Z
Updated	2018-11-19T09:00:10.000Z
Milestone	5.1
Labels	arch:m32c, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3599
Merges	0

Original author: sebastian.huber

The m32c architecture port is incomplete, e.g. important features such as interrupt support are missing. It never run on real hardware. The tools are out dated and unmaintained. There are no known users:

<https://lists.rtems.org/pipermail/users/2018-January/031991.html>

Author: Trac Migrate 2018-11-12T06:02:58.000Z

Original author: sebastian.huber

In [changeset:"bfcf1473cf117d039c76f1f10e40185cdc2f51ed/rtems" bfcf1473/rtems]:

```
1 m32c: Remove this target
2
3 Update #3599.
```

Author: Trac Migrate 2018-11-12T06:03:34.000Z

Original author: sebastian.huber

In [changeset:"1a704cdc7f34a1a5444a168662830e6a00f81cf8/rtems-docs" 1a704cd/rtems-docs]:

```
1 Remove m32c architecture port
2
3 Update #3599.
```

Author: Trac Migrate 2018-11-12T06:04:33.000Z

Original author: sebastian.huber

In [changeset:"bd59c23f8f47bbee16164db3363d3273d0978fd9/rtems-tools" bd59c23/rtems-tools]:

```
1 Remove m32c support
2
3 Update #3599.
```

Author: Trac Migrate 2018-11-12T06:04:56.000Z

Original author: sebastian.huber

In [changeset:"25a5f24289ffa886754698ba2cbadd551afb9de3/rtems-source-builder" 25a5f24/rtems-source-builder]:

```
1 m32c: Remove this build set
2
3 Update #3599.
```

Author: Trac Migrate 2018-11-14T06:00:04.000Z

Original author: sebastian.huber

In [changeset:"d665fdb794b3c25d8644bb655429b231e41d0b65/rtems-source-builder" d665fdb/rtems-source-builder]:

```
1 5: Update RTEMS tools
2
3 Pick up m32c removal.
4
5 Update #3599.
```

Author: Trac Migrate 2018-11-19T09:00:10.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.436 3576 - gdb 8.0.1 sis does not build on Cygwin

Id	3576
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2018-10-30T23:13:30.000Z
Updated	2018-11-14T18:47:45.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::gdb, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3576
Merges	0

Cygwin no longer has libtermcap. gdb/sim/erc32 needs a patch to find libncurses. Upstream gdb patch already merged.

<https://sourceware.org/git/gitweb.cgi?p=binutils-gdb.git;a=commitdiff;h=c1230d1bab8e36e1aa40f3bbadcef9b5d9ddc041>

This ticket is just to contain a patch that applies cleanly to gdb 8.0.1 and to track adding that patch to the RSB.

- [gdb-8.0.1-sis-cygwin.diff](#)

Author: Joel Sherrill 2018-10-30T23:17:00.000Z

- **Attachment** [gdb-8.0.1-sis-cygwin.diff](#) added

Patch for sis on Cygwin

Author: Trac Migrate 2018-11-12T20:13:15.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"84a94f743e01363ff0469a7b560aa87b6e6ba93b/rtems-source-builder" 84a94f7/rtems-source-builder]:

```
1 rtems-gdb-8.0.1-1.cfg: Add Cygwin patch for ncurses not termcap
2
3 This also updates windows.py to distinguish between MSYS2 and Cygwin.
4
5 closes #3576.
```

Author: Trac Migrate 2018-11-14T18:47:45.000Z

In [changeset:"384ff19173c98b782f89197582318981184aa615/rtems-source-builder" 384ff19/rtems-source-builder]:

```
1 rtems-gdb-8.0.1-1.cfg: Correct previous commit.
2
3 Updates #3576.
```

4.2.1.437 3602 - Update or1k tool chain to use the upstream GCC

Id	3602
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-11-12T06:45:12.000Z
Updated	2018-11-14T06:02:25.000Z
Milestone	5.1
Labels	arch:or1k, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3602
Merges	0

Original author: sebastian.huber

Author: Trac Migrate 2018-11-14T06:00:10.000Z

Original author: sebastian.huber

In [changeset:"c5ad16abad1348999da2a635219779a50036efc4/rtems-source-builder" c5ad16a/rtems-source-builder]:

```

1 5: Use latest Binutils for riscv
2
3 This is a preparation to update or1k to use the latest GCC.
4
5 Update #3602.

```

Author: Trac Migrate 2018-11-14T06:00:16.000Z

Original author: sebastian.huber

In [changeset:"55aff9097ff824374dcd7879061083c4102fdbf2/rtems-source-builder" 55aff90/rtems-source-builder]:

```

1 5: Use latest GCC for riscv
2
3 This is a preparation to update or1k to use the latest GCC.
4
5 Update #3602.

```

Author: Trac Migrate 2018-11-14T06:00:28.000Z

Original author: sebastian.huber

In [changeset:"8241563b6ec559fd562ec41147b04797a54dfe5f/rtems-source-builder" 8241563/rtems-source-builder]:

```

1 5: Use latest Binutils and GCC for or1k
2
3 Update #3602.

```

Author: Trac Migrate 2018-11-14T06:02:25.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"28bf4cae7878f4e47cc24c114fc9c5567247ecc1/rtems" 28bf4ca/rtems]:

```

1 or1k: Support GCC 9
2
3 Close #3602.

```

4.2.1.438 3579 - testsuite's rtems-test-check.py python version support

Id	3579
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2018-11-01T02:27:40.000Z
Updated	2018-11-08T23:20:25.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3579
Merges	0

This command used in the testsuite needs to find a suitable python or the build system needs to find it and invoke it with that python.

Author: Trac Migrate 2018-11-08T23:20:25.000Z

- **Owner** set to Chris Johns <chrisj@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"06ced255e7beb755a94710a53e888c8557453440/rtems" 06ced25/rtems]:

```
1 testsuite: Add python verison support to rtems-test-check.py
2
3 Closes #3579
```

4.2.1.439 3577 - Avoid CLoog and ISL host dependencies for target GCC

Id	3577
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-10-31T07:21:59.000Z
Updated	2018-11-06T09:50:23.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::enhancement, tool::gcc, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3577
Merges	0

Original author: sebastian.huber

We already use GCC in-tree libraries for MPFR, MPC, GMP and zlib. Use them also for CLoog and ISL. This helps to ensure that the same target code is generated across host systems. It also

helps to avoid GCC build issues in case future versions of ISL and CLooG available on the host system are incompatible to the GCC version picked up by the RSB for RTEMS.

Author: Trac Migrate 2018-11-05T07:12:29.000Z

Original author: sebastian.huber

Since GCC 5 the CLooG library is no longer necessary.

Author: Trac Migrate 2018-11-06T09:50:16.000Z

Original author: sebastian.huber

In [changeset:"509dfbdd2e6849f9ea1523f38d5c7bd646158b60/rtems-source-builder" 509dfbd/rtems-source-builder]:

```
1 Support in-tree CLooG and ISL libraries for GCC
2
3 Update #3577.
```

Author: Trac Migrate 2018-11-06T09:50:23.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"9955b1a430677b12c04c77eb6502fae4bb6947b2/rtems-source-builder" 9955b1a/rtems-source-builder]:

```
1 5: Use in-tree ISL libraries for GCC
2
3 Close #3577.
```

4.2.1.440 3562 - Use a short paths for the RSB temporary build path on Windows

Id	3562
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2018-10-22T00:58:24.000Z
Updated	2018-11-05T04:47:51.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3562
Merges	0

The `%{_tmproot}` path is currently based on a `BuildRoot` setting in the build configuration files. The line is:

```
1 BuildRoot: %[_tmppath]/%{name}-root-%(%{__id_u} -n)
```

This is for a shared `$TEMP` path plus the name is not shortened so on Windows these paths become long. Remove the `BuildRoot` from all configuration files and add support for a shortened temporary path. Windows needs short paths due to the 256 max. path length issue.

Author: Trac Migrate 2018-11-05T04:47:51.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"96c414c8ff0b8715111db8d0114df284ddd0d14c/rtems-source-builder" 96c414c/rtems-source-builder]:

```
1 windows: Remove BuildRoot from all configs, add a short tmp path.
2
3 Closes #3562.
```

4.2.1.441 3407 - Move Gaisler.org and Gaisler.se hosted RSB patches to rtems.org

Id	3407
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-04-24T22:58:15.000Z
Updated	2018-10-23T21:48:12.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3407
Merges	0

Jiri has suggested that the patches used in the RSB that are hosted by him be moved to rtems.org and the RSB patches link be changed.

This impacts at least qemu.

Author: Chris Johns 2018-04-25T02:21:41.000Z

Please avoid personal directories on `ftp.rtems.org`. There are no other accessible paths on that host.

You can use a ticket and attachments. I cannot see a way to get a txt version of our mailing list archives.

Author: Chris Johns 2018-10-19T00:19:07.000Z

Can someone else please handle this?

Author: Joel Sherrill 2018-10-23T17:05:31.000Z

I only see this one patch referencing Jiri's servers:

```
1 ./tools/rtems-gdb-7.12-1.cfg:%patch add gdb https://gaisler.org/gdb/gdb-
  ↪7.12.1-sis-leon2-leon3.diff
```

The current rtems-gdb-8.0.1-1.cfg references a ticket attachment.

```
1 %patch add gdb https://devel.rtems.org/raw-attachment/ticket/3460/gdb-8.
  ↪0.1-sis-leon2-leon3.diff
```

Is it OK to close this since the current sparc/gdb build doesn't touch his server?

Author: Chris Johns 2018-10-23T21:48:12.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Yes it is fine to close this ticket, I will do it. I will clean out the configs on the 5 branch when it is created.

4.2.1.442 3546 - Support O_NOFOLLOW open() flag

Id	3546
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-10-11T08:50:06.000Z
Updated	2018-10-23T14:02:33.000Z
Milestone	5.1
Labels	library, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3546
Merges	0

Original author: sebastian.huber

Author: Trac Migrate 2018-10-12T12:16:56.000Z

Original author: sebastian.huber

In [changeset:"35c533f545c88ffea9ba619080997716f121d591/rtems-source-builder" 35c533f/rtems-source-builder]:

```

1 5: Update Newlib
2
3 Pick up POSIX header file changes and improved opendir() implementation.
4 This addresses time of check and time of use error conditions (TOCTOU).
5
6 Update #3530.
7 Update #3545.
8 Update #3546.
9 Update #3547.

```

Author: Trac Migrate 2018-10-23T14:02:33.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1ad26cdf7eae323feda4c1030c057c52126af3b/rtems" 1ad26cd/rtems]:

```

1 Support O_NOFOLLOW open() flag
2
3 Close #3546.

```

4.2.1.443 3547 - Support O_CLOEXEC open() flag

Id	3547
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-10-11T08:50:59.000Z
Updated	2018-10-23T14:02:29.000Z
Milestone	5.1
Labels	library, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3547
Merges	0

Original author: sebastian.huber

This is a POSIX flag. Make sure its use causes no open failure.

Author: Trac Migrate 2018-10-12T12:16:56.000Z

Original author: sebastian.huber

In [changeset:"35c533f545c88ffea9ba619080997716f121d591/rtems-source-builder" 35c533f/rtems-source-builder]:

```

1 5: Update Newlib
2
3 Pick up POSIX header file changes and improved opendir() implementation.
4 This addresses time of check and time of use error conditions (TOCTOU).
5
6 Update #3530.
7 Update #3545.
8 Update #3546.
9 Update #3547.

```

Author: Trac Migrate 2018-10-23T14:02:29.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"38259266018f49c23e6b72f58f740a2d423d9c62/rtems" 3825926/rtems]:

```

1 Support O_CLOEXEC open() flag
2
3 Make sure this flag is ignored and does not prevent a successful open.
4
5 Close #3547.

```

4.2.1.444 3545 - Support O_DIRECTORY open() flag

Id	3545
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-10-11T08:49:05.000Z
Updated	2018-10-23T14:02:07.000Z
Milestone	5.1
Labels	library, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3545
Merges	0

Original author: sebastian.huber

Use this flag in opendir().

Author: Trac Migrate 2018-10-12T12:16:56.000Z

Original author: sebastian.huber

In [changeset:"35c533f545c88ffea9ba619080997716f121d591/rtems-source-builder" 35c533f/rtems-source-builder]:

```

1 5: Update Newlib
2
3 Pick up POSIX header file changes and improved opendir() implementation.
4 This addresses time of check and time of use error conditions (TOCTOU).
5
6 Update #3530.
7 Update #3545.
8 Update #3546.
9 Update #3547.
```

Author: Trac Migrate 2018-10-18T09:13:10.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"4af18b34f4193eb1ffa0415d50f952aa781ef2da/rtems" 4af18b3/rtems]:

```

1 Support O_DIRECTORY open() flag
2
3 Close #3545.
```

Author: Trac Migrate 2018-10-23T14:02:07.000Z

Original author: sebastian.huber

In [changeset:"92e0eedc0aed2ce024209e1e2345116122a155ed/rtems" 92e0eed/rtems]:

```

1 psxreaddir: Adjust test due to opendir() changes
2
3 Update #3545.
```

4.2.1.445 3180 - ar warning: ``u'` modifier ignored since ``D'` is the default (see ``U'`)

Id	3180
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2017-10-12T01:25:21.000Z
Updated	2018-10-22T05:52:46.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::build, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3180
Merges	0

Remove this warning

```
1 sparc-rtems4.12-ar: `u' modifier ignored since `D' is the default (see `U')
```

Author: Joel Sherrill 2017-10-12T01:41:30.000Z

- **Milestone** changed from `%”4.12.0”` to `%”Indefinite”`
- **Owner** set to `sebastian.huber`
- **Status** changed from *new* to *assigned*

This appears to be related to deterministic archives per this discussion.

I tried to find the magic combination of options but have had no luck.

Author: Trac Migrate 2018-10-22T05:52:46.000Z

- **Milestone** changed from `%”Indefinite”` to `%”5.1”`
- **Resolution** set to `~”fixed”`
- **Status** changed from *assigned* to *closed*

Fixed by [637546a659cd71fba108bbdce4478e466d3b65bb/rtems].

4.2.1.446 3175 - Merge FreeBSD timecounter changes from 2015-01-20 to now

Id	3175
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-10-10T05:50:32.000Z
Updated	2018-10-20T15:21:27.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3175
Merges	0

Original author: sebastian.huber

Author: Trac Migrate 2017-10-12T05:05:59.000Z

Original author: sebastian.huber

In [changeset:"ea0b339bbcfee1636918375e55c67e9bc0916021/rtems" ea0b339/rtems]:

```

1 timecounter: Merge FreeBSD change r279728
2
3 Add mutex support to the pps_ioctl() API in the kernel. Bump kernel_
  ↪ version to reflect structure change.
4
5 PR: 196897
6 MFC after: 1 week
7
8 Update #3175.
```

Author: Trac Migrate 2017-10-12T05:06:10.000Z

Original author: sebastian.huber

In [changeset:"0aef6fb35009cbd2d7d62594eb76d625c4da2d71/rtems" 0aef6fb/rtems]:

```

1 timecounter: Merge FreeBSD change r280012
2
3 Use sbuf_printf() for sysctl strings instead of stack buffers and_
  ↪ snprintf().
4
5 Update #3175.
```

Author: Trac Migrate 2017-10-12T05:06:22.000Z

Original author: sebastian.huber

In [changeset:"51304ddeb797ce32c8c94c528caaf517edaa777f/rtems" 51304dde/rtems]:

```

1 timecounter: Merge FreeBSD change r282424
2
3 Implement a mechanism for making changes in the kernel<->driver PPS_
  ↳ interface without breaking ABI or API compatibility with existing_
  ↳ drivers.
4
5 The existing data structures used to communicate between the kernel and
6 driver portions of PPS processing contain no spare/padding fields and no
7 flags field or other straightforward mechanism for communicating changes
8 in the structures or behaviors of the code. This makes it difficult to
9 MFC new features added to the PPS facility. ABI compatibility is
10 important; out-of-tree drivers in module form are known to exist. (Note
11 that the existing api_version field in the pps_params structure must
12 contain the value mandated by RFC 2783 and any RFCs that come along_
  ↳ after.)
13
14 These changes introduce a pair of abi-version fields which are filled in
15 by the driver and the kernel respectively to indicate the interface
16 version. The driver sets its version field before calling the new
17 pps_init_abi() function. That lets the kernel know how much of the
18 pps_state structure is understood by the driver and it can avoid using
19 newer fields at the end of the structure that it knows about if the_
  ↳ driver
20 is a lower version. The kernel fills in its version field during the_
  ↳ init
21 call, letting the driver know what features and data the kernel_
  ↳ supports.
22
23 To implement the new version information in a way that is backwards
24 compatible with code from before these changes, the high bit of the
25 lightly-used 'kcmode' field is repurposed as a flag bit that indicates_
  ↳ the
26 driver is aware of the abi versioning scheme. Basically if this bit is
27 clear that indicates a "version 0" driver and if it is set the driver_
  ↳ abi
28 field indicates the version.
29
30 These changes also move the recently-added 'mtx' field of pps_state from
31 the middle to the end of the structure, and make the kernel code that_
  ↳ uses
32 this field conditional on the driver being abi version 1 or higher. It
33 changes the only driver currently supplying the mtx field, usb_serial,_
  ↳ to
34 use pps_init_abi().
35
36 Reviewed by:    hselasky@

```

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37
38 Update [#3175](#).

Author: Trac Migrate 2017-10-12T05:06:34.000Z

Original author: sebastian.huber

In [\[changeset:"4d0ade962d1871211b2eb9deb97aa8c409076c90/rtems"4d0ade9/rtems\]](#):

```
1 timecounter: Merge FreeBSD change r284256
2
3 Tweaks for r284178:
4
5 Do not include machine/atomic.h explicitly, the header is already
6   ↪ included
7   by sys/system.h.
8
9 Force inlining of tc_getgen() and tc_setgen(). The functions are used
10 more than once, which causes compilers with non-aggressive inlining
11 policies to generate calls.
12
13 Suggested by: bde
14 Sponsored by: The FreeBSD Foundation
15 MFC after: 1 week
16
17 Update #3175.
```

Author: Trac Migrate 2017-10-12T05:06:46.000Z

Original author: sebastian.huber

In [\[changeset:"016306354f8d68c894a3374471f28b11f0226bd4/rtems"0163063/rtems\]](#):

```
1 timecounter: Merge FreeBSD change r285286
2
3 Reimplement the ordering requirements for the timehands updates, and
4   ↪ for timehands consumers, by using fences.
5
6 Ensure that the timehands->th_generation reset to zero is visible
7 before the data update is visible [*]. tc_setget() allowed data update
8 writes to become visible before generation (but not on TSO
9 architectures).
10
11 Remove tc_setgen(), tc_getgen() helpers, use atomics inline [**].
12
13 Noted by: alc [*]
```

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```

13 Requested by:  bde [**]
14 Reviewed by:   alc, bde
15 Sponsored by:  The FreeBSD Foundation
16 MFC after:     3 weeks
17
18 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:06:58.000Z

Original author: sebastian.huber

In [changeset:"ec349b58363a5936af9022c2b4847db633a45145/rtems" ec349b58/rtems]:

```

1 timecounter: Merge FreeBSD change r286423
2
3 RFC 2783 requires a status of ETIMEDOUT, not EWOULDBLOCK, on a timeout.
4
5 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:07:09.000Z

Original author: sebastian.huber

In [changeset:"749468112b29b70f4c08ef4de133dfad2194b7a2/rtems" 7494681/rtems]:

```

1 timecounter: Merge FreeBSD change r286429
2
3 Only process the PPS event types currently enabled in pps_params.mode.
4
5 This makes the PPS API behave correctly, but isn't ideal -- we still end
6 up capturing PPS data for non-enabled edges, we just don't process the
7 data into an event that becomes visible outside of kern_tc. That's
8 ↪because
9 the event type isn't passed to pps_capture(), so it can't do the
10 ↪filtering.
11 Any solution for capture filtering is going to require touching every
12 ↪driver.
13
14 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:07:21.000Z

Original author: sebastian.huber

In [changeset:"f1463c8bdd6c967501365ca37e662d763864167b/rtems" f1463c8/rtems]:

```

1 timecounter: Merge FreeBSD change r286701
2
3 If a specific timecounter has been chosen via sysctl, and a new
4 ↪timecounter with higher quality registers (presumably in a module
5 ↪that has just been loaded), do not undo the user's choice by
6 ↪switching to the new timecounter.
7
8 Document that behavior, and also the fact that there is no way to
9 ↪unregister
10 a timecounter (and thus no way to unload a module containing one).
11
12 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:07:33.000Z

Original author: sebastian.huber

In [changeset:"2b6d00f533f71027a5b076d0cbd50847640c8ec2/rtems" 2b6d00f/rtems]:

```

1 timecounter: Merge FreeBSD change r304285
2
3 Constify the pointers to eventtimer and timecounter name strings.
4
5 The need for this appears as soon as you try to set the names to
6 ↪something
7 that isn't a "quoted literal". (I'm actually confused why quoted
8 ↪strings
9 aren't a problem as well, we must have some warning disabled.)
10
11 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:07:44.000Z

Original author: sebastian.huber

In [changeset:"f013c1476e3c1184aa18d7e33fd219e253db192f/rtems" f013c14/rtems]:

```

1 timecounter: Merge FreeBSD change r288216
2
3 Use per-cpu values for base and last in tc_cpu_ticks(). The values are
4 ↪updated lockless, different CPUs write its own view of timecounter
5 ↪state. The critical section is done for safety, callers of tc_cpu_
6 ↪ticks() are supposed to already enter critical section, or to own a
7 ↪spinlock.
8
9 The change fixes sporadical reports of too high values reported for
10 the (W)CPU on platforms that do not provide cpu ticker and use

```

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```

7 tc_cpu_ticks(), in particular, arm*.
8
9 Diagnosed and reviewed by:      jhb
10 Sponsored by:   The FreeBSD Foundation
11 MFC after:      1 week
12
13 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:07:56.000Z

Original author: sebastian.huber

In [changeset:"4cd742ed1d0252cfa7c0b034cf079b46ba317046/rtems" 4cd742e/rtems]:

```

1 timecounter: Merge FreeBSD change r290257
2
3 Define `fhard` in pps_event(..) only when PPS_SYNC is defined to mute_
  ↳ an -Wunused-but-set-variable warning
4
5 Reported by: FreeBSD_HEAD_amd64_gcc4.9 jenkins job
6 Sponsored by: EMC / Isilon Storage Division
7
8 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:08:08.000Z

Original author: sebastian.huber

In [changeset:"65f2cd7a75bb1829765ddea50cb63f30c4d04f51/rtems" 65f2cd7a/rtems]:

```

1 timecounter: Merge FreeBSD change r298819
2
3 sys/kern: spelling fixes in comments.
4
5 No functional change.
6
7 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:08:20.000Z

Original author: sebastian.huber

In [changeset:"f6c9460160612960b1e3ee8baf7203007a093077/rtems" f6c94601/rtems]:

```

1 timecounter: Merge FreeBSD change r298981
2
3 sys/sys: minor spelling fixes.
4
5 While the changes are minor, these headers are very visible.
6
7 MFC after:      2 weeks
8
9 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:08:32.000Z

Original author: sebastian.huber

In [changeset:"d310aa7c617c35c64c315b5c68753078c118b522/rtems"
d310aa7/rtems]:

```

1 timecounter: Merge FreeBSD change r303382
2
3 Hide the boottime and boottimebin globals, provide the getboottime(9)
4 ↪ and getboottimebin(9) KPI. Change consumers of boottime to use the
5 ↪ KPI. The variables were renamed to avoid shadowing issues with local
6 ↪ variables of the same name.
7
8
9 Issue is that boottime* should be adjusted from tc_windup(), which
10 requires them to be members of the timehands structure. As a
11 preparation, this commit only introduces the interface.
12
13
14 Some uses of boottime were found doubtful, e.g. NLM uses boottime to
15 identify the system boot instance. Arguably the identity should not
16 change on the leap second adjustment, but the commit is about the
17 timekeeping code and the consumers were kept bug-to-bug compatible.
18
19
20 Tested by:      pho (as part of the bigger patch)
21 Reviewed by:    jhb (same)
22 Discussed with: bde
23 Sponsored by:   The FreeBSD Foundation
24 MFC after:      1 month
25 X-Differential revision:      https://reviews.freebsd.org/D7302
26
27 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:08:44.000Z

Original author: sebastian.huber

In [changeset:"6d3c12549f3b6394e841b98f663532b039c8289f/rtems"
6d3c125/rtems]:

```

1 timecounter: Merge FreeBSD change r303383
2
3 Reduce number of timehands to just two. This is useful because
4 ↪ consumers can now be only one tc_windup() call late.
5
6 Use C99 initialization.
7
8 Tested by:      pho (as part of the whole patch)
9 Reviewed by:    jhb (same)
10 Discussed with: bde
11 Sponsored by:   The FreeBSD Foundation
12 MFC after:      1 month
13 X-Differential revision:      https://reviews.freebsd.org/D7302
14 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:08:56.000Z

Original author: sebastian.huber

In [\[changeset:"464fd5dae39f01568cb3ad5d1fd6a4f35fbe10ab/rtems"464fd5d/rtems\]](#):

```

1 timecounter: Merge FreeBSD change r303384
2
3 Style.
4
5 Sponsored by:   The FreeBSD Foundation
6 MFC after:      1 month
7 X-Differential revision:      https://reviews.freebsd.org/D7302
8
9 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:09:08.000Z

Original author: sebastian.huber

In [\[changeset:"b48aeaf4cfdbc289a53ff78f06452298845f8d3a/rtems"b48aeaf/rtems\]](#):

```

1 timecounter: Merge FreeBSD change r303387
2
3 Prevent parallel tc_windup() calls, both parallel top-level calls from
4 ↪ setclock() and from simultaneous top-level and interrupt. For this,
5 ↪ tc_windup() is protected with a tc_setclock_mtx spinlock, in the try
6 ↪ mode when called from hardclock interrupt. If spinlock cannot be
7 ↪ obtained without spinning from the interrupt context, this means that
8 ↪ top-level executes tc_windup() on other core and our try may be
9 ↪ avoided.

```

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```

4
5 The boottimebin and boottime variables should be adjusted from
6 tc_windup(). To be correct, they must be part of the timehands and
7 read using lockless protocol. Remove the globals and reimplement the
8 getboottime(9)/getboottimebin(9) KPI using the timehands read
9 protocol.
10
11 Tested by:      pho (as part of the whole patch)
12 Reviewed by:    jhb (same)
13 Discussed wit:  bde
14 Sponsored by:   The FreeBSD Foundation
15 MFC after:      1 month
16 X-Differential revision:      https://reviews.freebsd.org/D7302
17
18 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:09:20.000Z

Original author: sebastian.huber

In [changeset:"c382cc832847c6f687f6d1d4f61a7a5c3b5275ea/rtems" c382cc83/rtems]:

```

1 timecounter: Merge FreeBSD change r303548
2
3 Cache getbintime(9) answer in timehands, similarly to getnanotime(9)
4 and getmicrotime(9).
5
6 Suggested and reviewed by:      bde (previous version)
7 Sponsored by:   The FreeBSD Foundation
8 MFC after:      1 month
9
10 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:09:33.000Z

Original author: sebastian.huber

In [changeset:"748871578c3dd0077e1f1de246993c80424ab63b/rtems" 7488715/rtems]:

```

1 timecounter: Merge FreeBSD change r304285
2
3 Implement userspace gettimeofday(2) with HPET timecounter.
4
5 Right now, userspace (fast) gettimeofday(2) on x86 only works for
6 RDTSC. For older machines, like Core2, where RDTSC is not C2/C3
7 invariant, and which fall to HPET hardware, this means that the call

```

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```

8 has both the penalty of the syscall and of the uncached hw behind the
9 QPI or PCIe connection to the sought bridge. Nothing can be done
10 against the access latency, but the syscall overhead can be removed.
11 System already provides mappable /dev/hpetX devices, which gives
12 straight access to the HPET registers page.
13
14 Add yet another algorithm to the x86 'vdso' timehands. Libc is updated
15 to handle both RDTSC and HPET. For HPET, the index of the hpet device
16 to mmap is passed from kernel to userspace, index might be changed and
17 libc invalidates its mapping as needed.
18
19 Remove cpu_fill_vdso_timehands() KPI, instead require that
20 timecounters which can be used from userspace, to provide
21 tc_fill_vdso_timehands{,32}() methods. Merge i386 and amd64
22 libc/<arch>/sys/__vdso_gettc.c into one source file in the new
23 libc/x86/sys location. __vdso_gettc() internal interface is changed
24 to move timecounter algorithm detection into the MD code.
25
26 Measurements show that RDTSC even with the syscall overhead is faster
27 than userspace HPET access. But still, userspace HPET is three-four
28 times faster than syscall HPET on several Core2 and SandyBridge
29 machines.
30
31 Tested by:      Howard Su <howard0su@gmail.com>
32 Sponsored by:   The FreeBSD Foundation
33 MFC after:      1 month
34 Differential revision: https://reviews.freebsd.org/D7473
35
36 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:09:45.000Z

Original author: sebastian.huber

In [\[changeset:"a9219e7464d4ea90d0728c40c96965699cfc39f3/rtems" a9219e7/rtems\]](#):

```

1 timecounter: Merge FreeBSD change r310053
2
3 Add labels to sysctls related to clocks.
4
5 Sysctls like kern.eventtimer.et.*.quality currently embed the name of
6 the clock device. This is problematic for the Prometheus metrics
7 exporter for two reasons:
8
9 - Some of those clocks have dashes in their names, which Prometheus
10 doesn't allow to be used in metric names.
11 - It doesn't allow for extracting the same property of all clocks on the
12 system from within a single query.

```

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```

13
14 Attach these nodes to have a label, so that the Prometheus metrics
15 exporter gives these metric a uniform name with the name of the clock
16 attached as a label.
17
18 Reviewed by:    cem
19 Differential Revision:  https://reviews.freebsd.org/D8775
20
21 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:09:57.000Z

Original author: sebastian.huber

In [\[changeset:"952b42b643d66fbc88d45d51e4572102c9c00ba9/rtems"952b42b6/rtems\]](#):

```

1 timecounter: Merge FreeBSD change r315280
2
3 When the RTC is adjusted, reevaluate absolute sleep times based on the_
4 ↪RTC
5
6 POSIX 2008 says this about clock_settime(2):
7
8 If the value of the CLOCK_REALTIME clock is set via clock_settime(),
9 the new value of the clock shall be used to determine the time
10 of expiration for absolute time services based upon the
11 CLOCK_REALTIME clock. This applies to the time at which armed
12 absolute timers expire. If the absolute time requested at the
13 invocation of such a time service is before the new value of
14 the clock, the time service shall expire immediately as if the
15 clock had reached the requested time normally.
16
17 Setting the value of the CLOCK_REALTIME clock via clock_settime()
18 shall have no effect on threads that are blocked waiting for
19 a relative time service based upon this clock, including the
20 nanosleep() function; nor on the expiration of relative timers
21 based upon this clock. Consequently, these time services shall
22 expire when the requested relative interval elapses, independently
23 of the new or old value of the clock.
24
25 When the real-time clock is adjusted, such as by clock_settime(3),
26 wake any threads sleeping until an absolute real-clock time.
27 Such a sleep is indicated by a non-zero td_rtcgen. The sleep functions
28 will set that field to zero and return zero to tell the caller
29 to reevaluate its sleep duration based on the new value of the clock.
30
31 At present, this affects the following functions:

```

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```

32 pthread_cond_timedwait(3)
33 pthread_mutex_timedlock(3)
34 pthread_rwlock_timedrdlock(3)
35 pthread_rwlock_timedwrlock(3)
36 sem_timedwait(3)
37 sem_clockwait_np(3)
38
39 I'm working on adding clock_nanosleep(2), which will also be affected.
40
41 Reported by:    Sebastian Huber <sebastian.huber@embedded-brains.de>
42 Reviewed by:    jhb, kib
43 MFC after:      2 weeks
44 ReInotes:       yes
45 Sponsored by:   Dell EMC
46 Differential Revision:  https://reviews.freebsd.org/D9791
47
48 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:10:09.000Z

Original author: sebastian.huber

In [changeset:"5167d0e76bd0e153a5147064c96e2aa5e7282bc2/rtems" 5167d0e/rtems]:

```

1 timecounter: Merge FreeBSD change r315287
2
3 Add missing pieces of r315280
4
5 I moved this branch from github to a private server, and pulled from the
6 wrong one when committing r315280, so I failed to include two recent
  ↪ commits.
7 Thankfully, they were only cosmetic and were included in the review.
8 Specifically:
9
10 Add documentation, polish comments, and improve style(9).
11
12 Tested by:      pho (r315280)
13 MFC after:      2 weeks
14 Sponsored by:   Dell EMC
15 Differential Revision:  https://reviews.freebsd.org/D9791
16
17 Update #3175.

```

Author: Trac Migrate 2017-10-12T05:10:22.000Z

Original author: sebastian.huber

In [changeset:"bcbbe76396c4fcada2d7d4273078bbe9d7a61843/rtems" bcbbe76/rtems]:

```

1 timecounter: Merge FreeBSD change r324528
2
3 The th_bintime, th_microtime and th_nanotime members of the timehand_
  ↳all cache the last system time (uptime + boottime). Only the format_
  ↳differs. Do not re-calculate the bintime and simply use the value_
  ↳used to calculate the microtime and nanotime.
4
5 Group all the updates under the relevant comment. Remove obsoleted
6 XXX part.
7
8 Submitted by: Sebastian Huber <sebastian.huber@embedded-brains.de>
9 MFC after: 1 week
10
11 Update #3175.
```

Author: Trac Migrate 2017-10-12T05:10:35.000Z

Original author: sebastian.huber

In [changeset:"d8b6f1c10f6452af00636d79b031f12d25b054a7/rtems" d8b6f1c/rtems]:

```

1 timecounter: Update FreeBSD identifiers
2
3 Update #3175.
```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Joel Sherrill 2017-12-05T14:28:46.000Z

Original author: sebastian.huber

Is this done and can be closed? With an appropriate comment.

Author: Joel Sherrill 2018-10-13T22:46:08.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Closing since no feedback since Dec 2017

Author: Amar Takhar 2018-10-20T15:15:06.000Z

Original author: sebastian.huber

Whoops, Joel closed this. I need to test the fix implemented in [#3557](#) to make sure no developers that do not have an account on trac receive an email.

4.2.1.447 3382 - Testsuite Makefile merge to one per group of tests

Id	3382
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2018-04-05T02:46:39.000Z
Updated	2018-10-19T00:30:39.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::build, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3382
Merges	0

Merge the nested Makefile.am files into a single file per group of tests.

A single Makefile.am for all tests is not practical at this point in time because a test is an estimated 7 lines and with over 750 tests this means the file would be too big and a conflict hot spot.

Author: Trac Migrate 2018-04-09T22:36:29.000Z

In [changeset:"18f77699a8bff801e0e3f6eed3539b1887cf91a6/rtems" 18f77699/rtems]:

```

1 testsuite: Autoconf test check support.
2
3 The autoconf function checks the state of a test for the BSP and
4 controls the building of the test.
5
6 This change is part of the testsuite Makefile.am reorganisation.
7
8 Update #3382
```

Author: Trac Migrate 2018-04-09T22:36:39.000Z

In [changeset:"32f2629bb7a08f2c006dda792020aaa10a4f1649/rtems" 32f2629b/rtems]:

```
1 testsuite/benchmarks: Merged nested Makefile.am files into one Makefile.  
2 ↪am  
3 This change is part of the testsuite Makefile.am reorganization.  
4  
5 Update #3382
```

Author: Trac Migrate 2018-04-09T22:36:49.000Z

In [changeset:"5c65b9881bec47e322607a9a63c83d1a229c1710/rtems"
5c65b98/rtems]:

```
1 testsuite/libtests: Merged nested Makefile.am files into one Makefile.am  
2  
3 This change is part of the testsuite Makefile.am reorganization.  
4  
5 Update #3382
```

Author: Trac Migrate 2018-04-09T22:37:00.000Z

In [changeset:"8967e5fa78361bc7db4681ed117b0e7164821ef5/rtems"
8967e5f/rtems]:

```
1 testsuite/fstests: Merged nested Makefile.am files into one Makefile.am  
2  
3 This change is part of the testsuite Makefile.am reorganization.  
4  
5 Update #3382
```

Author: Trac Migrate 2018-04-09T22:37:12.000Z

In [changeset:"3206879f06e7e74abe0593d53a67e6cccab4bd18/rtems"
3206879f/rtems]:

```
1 testsuite/mptests: Merged nested Makefile.am files into one Makefile.am  
2  
3 This change is part of the testsuite Makefile.am reorganization.  
4  
5 Update #3382
```

Author: Trac Migrate 2018-04-09T22:37:24.000Z

In [changeset:"2a99a6a066e5cff89ed6dad5f3ef38ce7da3a6df/rtems"
2a99a6a/rtems]:

```

1 testsuite/psxtests: Merged nested Makefile.am files into one Makefile.am
2
3 This change is part of the testsuite Makefile.am reorganization.
4
5 Update #3382

```

Author: Trac Migrate 2018-04-09T22:37:46.000Z

In [\[changeset:"dfc57eb34fc688417071d002dd3fb06d875b881c/rtems"dfc57eb/rtems\]](#):

```

1 testsuite/psxtmtests: Merged nested Makefile.am files into one Makefile.
2 ↪am
3
4 This change is part of the testsuite Makefile.am reorganization.
5
6 Update #3382

```

Author: Trac Migrate 2018-04-09T22:38:07.000Z

In [\[changeset:"590a5809bd3ed43ec9d3aad54a1f238792a5aefd/rtems"590a5809/rtems\]](#):

```

1 testsuite/irhealstone: Merged nested Makefile.am files into one ↪
2 ↪Makefile.am
3
4 This change is part of the testsuite Makefile.am reorganization.
5
6 Update #3382

```

Author: Trac Migrate 2018-04-09T22:38:22.000Z

In [\[changeset:"d027e6bb8e2595d38736763c55f0cd46a3f3cd1e/rtems"d027e6bb/rtems\]](#):

```

1 testsuite/samples: Merged nested Makefile.am files into one Makefile.am
2
3 This change is part of the testsuite Makefile.am reorganization.
4
5 Update #3382

```

Author: Trac Migrate 2018-04-09T22:38:39.000Z

In [\[changeset:"8074fa0b83431ee5fa0707b9207ffd636efca07f/rtems"8074fa0b/rtems\]](#):

```

1 testsuite/smp tests: Merged nested Makefile.am files into one Makefile.am
2
3 This change is part of the testsuite Makefile.am reorganization.
4
5 Update #3382

```

Author: Trac Migrate 2018-04-09T22:38:55.000Z

In [changeset:"bc0675393dec97c466ec18e3226339a43db6fe54/rtems" bc06753/rtems]:

```

1 testsuite/sptests: Merged nested Makefile.am files into one Makefile.am
2
3 This change is part of the testsuite Makefile.am reorganization.
4
5 Update #3382

```

Author: Trac Migrate 2018-04-09T22:39:06.000Z

In [changeset:"cc14545ed97d7fc03d2a6066f1700cb23fb02877/rtems" cc14545e/rtems]:

```

1 testsuite/tmtests: Merged nested Makefile.am files into one Makefile.am
2
3 This change is part of the testsuite Makefile.am reorganization.
4
5 Update #3382

```

Author: Trac Migrate 2018-04-09T22:39:17.000Z

In [changeset:"ee3d7dcb7fd6a95fd36998b7b05113a2d23bf0b9/rtems" ee3d7dcb/rtems]:

```

1 testsuites: Remove the test check from the subdir support.
2
3 Leave the parallel support so each test group builds in parallel.
4
5 Update #3382

```

Author: Trac Migrate 2018-04-09T22:39:28.000Z

In [changeset:"cb7b4dc459dd864d623c01977e261cfa8be773cc/rtems" cb7b4dc4/rtems]:

```

1 bsp/lpc24xx: Exclude iconv POSIX tests.
2
3 These are now built to executables and are too large for this BSP.
4
5 This change is part of the testsuite Makefile.am reorganization.
6
7 Update #3382

```

Author: Trac Migrate 2018-04-10T10:39:13.000Z

In [changeset:"2eaea4223f9d60a2d83630b9c60fbf79323105fb/rtems" 2eaea422/rtems]:

```

1 sptests: Fix AM_CONDITIONAL
2
3 Update #3382.

```

Author: Chris Johns 2018-10-19T00:30:39.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

This task is finished.

4.2.1.448 3506 - waf for building RTEMS applications needs updating

Id	3506
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2018-08-23T16:18:59.000Z
Updated	2018-10-19T00:28:55.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::build, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3506
Merges	0

Because there are no native tools in the RTEMS tree anymore, the RTEMS install point will not have a bin/ directory. If the `--rtems-tools` and `--rtems` directories are different, the sanity check by `_waf configure` for `${rtems}/bin` fails. See examples-v2.

```

1 + ./waf configure -v --rtems=/home/joel/rtems-work/bsp-install --rtems-tools=/
  ↳home/joel/rtems-work/tools/5 --rtems-bsps=powerpc/qemuppc
2 Setting top to                               : /home/joel/rtems-work/examples-v2
3 Setting out to                              : /home/joel/rtems-work/examples-v2/build

```

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```

4 RTEMS path is not valid. No bin directory found.
5 (complete log in /home/joel/rtems-work/examples-v2/build/config.log)

```

Author: Joel Sherrill 2018-08-23T16:19:22.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Chris Johns 2018-10-19T00:28:55.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

The rtems_waf git module has been fixed ..

https://git.rtems.org/rtems_waf/commit/?id=c0d52d5fcd9cad9b63479b92a0abf4fa5f5c99f3

4.2.1.449 3417 - Add libdwarf to elftoolchain and provide a C++ wrapper

Id	3417
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2018-04-29T01:58:27.000Z
Updated	2018-10-19T00:23:15.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, ticket-type::enhancement, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3417
Merges	0

Update the elftoolchain and add libdwarf.

Provide a C++ framework to create reusable access to libdwarf.

Author: Trac Migrate 2018-04-29T02:10:28.000Z

In [changeset:"0c5db2dd13b8270bb80c497d5f53ae2471f8a819/rtems-tools" 0c5db2d/rtems-tools]:

```

1 rtemstoolkit: Update elftoolchain to the latest code.
2
3 The update is taken from https://github.com/elftoolchain/elftoolchain.
4
5 Update #3417

```

Author: Trac Migrate 2018-04-30T05:51:44.000Z

In [changeset:"771e7f162ed5d0576fac476154280347a4bb228b/rtems-tools" 771e7f1/rtems-tools]:

```
1 rtemstoolkit: Update elftoolchain to the latest code.
2
3 The update is taken from:
4
5 https://svn.code.sf.net/p/elftoolchain/code/trunk
6
7 Update #3417
```

Author: Trac Migrate 2018-04-30T05:51:55.000Z

In [changeset:"4bb3996f2c42611deef3f9b99a2c34d318b85bee/rtems-tools" 4bb3996/rtems-tools]:

```
1 rtemstoolkit: Add libdwarf from elftoolchain.
2
3 The code is taken from:
4
5 https://svn.code.sf.net/p/elftoolchain/code/trunk
6
7 Update #3417
```

Author: Trac Migrate 2018-06-19T03:42:41.000Z

In [changeset:"558cab8e4f0d1793e7be21cc118aed5b293c022a/rtems-tools" 558cab8/rtems-tools]:

```
1 rtemstoolkit: Add libdwarf C++ interface.
2
3 Provide a C++ interface to libdwarf to:
4 - Manage DWARF debug data
5 - Manage CU
6 - Manage DIE
7 - Handle CU line addresses
8 - Handle CU source files
9
10 Update #3417
```

Author: Chris Johns 2018-10-19T00:23:15.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

The wrapper has been added to rtems-tools.

4.2.1.450 3529 - Fix issues raised by Coverity Scan for Telnet server

Id	3529
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-09-26T08:36:27.000Z
Updated	2018-10-18T10:51:42.000Z
Milestone	5.1
Labels	library, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3529
Merges	0

Original author: sebastian.huber

Author: Trac Migrate 2018-10-10T11:59:23.000Z

Original author: sebastian.huber

In [changeset:"2806e10dc1997a8d48231c9eaf1bbae62718ee25/rtems" 2806e10/rtems]:

```
1 telnetd: Ignore setsockopt() return status
2
3 Update #3529.
```

Author: Trac Migrate 2018-10-18T10:51:32.000Z

Original author: sebastian.huber

Coverity Scan no longer complains about the Telnet server code since this commit [26b58b7e4af27b632a3765249ba8f8a9b024fa08/rtems].

Author: Trac Migrate 2018-10-18T10:51:42.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.451 3375 - Remove command line pre-processor defines

Id	3375
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-03-27T05:19:46.000Z
Updated	2018-10-15T05:29:18.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::build, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3375
Merges	0

Original author: sebastian.huber

Command line defines defined by the build system make it difficult get a consistent view of the sources from other entities, e.g. static code analysis, code editors and reviews.

Command line defines are currently used here:

```

1 c/src/lib/libbsp/mips/hurricane/Makefile.am:libbsp_a_CPPFLAGS = $(AM_CPPFLAGS) -
  ↳ DRM52XX
2 c/src/lib/libbsp/mips/rbtx4938/Makefile.am:libbsp_a_CPPFLAGS = $(AM_CPPFLAGS) -
  ↳ DTX49
3 c/src/lib/libbsp/mips/jmr3904/Makefile.am:libbsp_a_CPPFLAGS = $(AM_CPPFLAGS) -
  ↳ DTX39
4 cpukit/pppd/Makefile.am:libpppd_a_CPPFLAGS = $(AM_CPPFLAGS) -D__BSD_VISIBLE -I
  ↳ $(srcdir)/../libmd
5 cpukit/libfs/Makefile.am:libjffs2_a_CPPFLAGS += -D__ECOS
6 cpukit/libfs/Makefile.am:libjffs2_a_CPPFLAGS += '-DKBUILD_MODNAME="JFFS2"'
7 cpukit/mghttpd/Makefile.am:# libmghttpd_a_CPPFLAGS += -DHAVE_MD5
8 cpukit/mghttpd/Makefile.am:libmghttpd_a_CPPFLAGS += -DNO_SSL -DNO_POPEN -DNO_CGI -
  ↳ DUSE_WEBSOCKET
9 cpukit/librpc/Makefile.am:librpc_CPPFLAGS = -D_RPC_read=read -D_RPC_write=write -
  ↳ D_RPC_close=close \\
10 cpukit/libnetworking/Makefile.am:libnetworking_CPPFLAGS = -DINET -DNFS \\
11 cpukit/libnetworking/Makefile.am:libc_CPPFLAGS = -DNO_POLL -DNOSELECT -D__BSD_
  ↳ _VISIBLE -D_THREAD_SAFE
12 cpukit/libnetworking/Makefile.am:lib_CPPFLAGS = -DNO_POLL -DNOSELECT
13 cpukit/libnetworking/Makefile.am:lib_a_CPPFLAGS = $(AM_CPPFLAGS) $(lib_CPPFLAGS) -
  ↳ D__BSD_VISIBLE
14 cpukit/libdl/Makefile.am:libdl_a_CPPFLAGS = $(AM_CPPFLAGS) -DRTEMS_RTL_RAP_
  ↳ _LOADER=1 -DRTEMS_RTL_ELF_LOADER=1

```

Author: Chris Johns 2018-03-27T06:15:31.000Z

Original author: sebastian.huber

What are you thinking of doing?

Author: Trac Migrate 2018-03-27T06:18:03.000Z

Original author: sebastian.huber

Move the defines to a header file.

Author: Joel Sherrill 2018-03-27T23:09:52.000Z

Original author: sebastian.huber

For places where the source comes from other places (e.g. JFFS2, etc), what's the approach that doesn't modify the upstream source?

Author: Trac Migrate 2018-03-28T05:02:03.000Z

Original author: sebastian.huber

We just have to be careful to avoid potential conflicts with upstream merges. JFFS2 is the only area with an active upstream.

Author: Chris Johns 2018-03-28T23:25:38.000Z

Original author: sebastian.huber

Replying to [Sebastian Huber](#):

We just have to be careful to avoid potential conflicts with upstream merges. JFFS2 is the only area with an active upstream.

Thank you.

Author: Trac Migrate 2018-04-04T11:51:33.000Z

Original author: sebastian.huber

In [changeset:"4f0dca3ad265e1871f9558497647a522548f62d5/rtems" 4f0dca3a/rtems]:

```
1 bsp: Move version.c and use bsptops.h
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
6 Update #3375.
```

Author: Trac Migrate 2018-04-30T06:08:38.000Z

Original author: sebastian.huber

In [changeset:"6ac6a5c86638742f77f941f16d2db3a3377ce3e5/rtems" 6ac6a5c8/rtems]:

```
1 jffs2: Do not use command line defines
2
3 Update #3375.
```

Author: Trac Migrate 2018-09-10T09:36:43.000Z

Original author: sebastian.huber

In [changeset:"cb682532cf9927619a3c8d168253187140835cc6/rtems" cb68253/rtems]:

```
1 network: Use kernel/user space header files
2
3 Add and use <machine/rtems-bsd-kernel-space.h> and
4 <machine/rtems-bsd-user-space.h> similar to the libbsd to avoid command
5 line defines and defines scattered throught the code base.
6
7 Simplify cpukit/libnetworking/Makefile.am.
8
9 Update #3375.
```

Author: Trac Migrate 2018-10-04T08:50:16.000Z

Original author: sebastian.huber

In [changeset:"e069f7fe566f93e50d2559c04ff31cc334748e51/rtems" e069f7fe/rtems]:

```
1 rpc: Use configuration header file
2
3 Update #3375.
```

Author: Trac Migrate 2018-10-04T08:50:27.000Z

Original author: sebastian.huber

In [changeset:"06060da3bc4ea255210a6b0bc5e4187227bf2f95/rtems" 06060da/rtems]:

```
1 pppd: Simplify Makefile.am
2
3 Update #3375.
```

Author: Trac Migrate 2018-10-04T08:50:37.000Z

Original author: sebastian.huber

In [changeset:"2e77151e93c4083177a398581d4365fa284fa169/rtems" 2e77151/rtems]:

```
1 mghttpd: Add configuration to source file
2
3 Update #3375.
```

Author: Trac Migrate 2018-10-04T08:50:47.000Z

Original author: sebastian.huber

In [changeset:"f373bdc0876c080ca99251abd7f377c81193cee5/rtems" f373bdc0/rtems]:

```
1 libdl: Avoid command line defines
2
3 Update #3375.
```

Author: Trac Migrate 2018-10-04T08:50:58.000Z

Original author: sebastian.huber

In [changeset:"2d17e8827ea9c29182e5032f7bdf7cd5b4785064/rtems" 2d17e88/rtems]:

```
1 bsps/mips: Remove unused command line defines
2
3 Update #3375.
```

Author: Trac Migrate 2018-10-10T11:59:34.000Z

Original author: sebastian.huber

In [changeset:"6cdaa850c8698b0949ebc393fc2e423762e85b94/rtems" 6cdaa85/rtems]:

```
1 shell: Use #include "." for local header files
2
3 Update #3375.
```

Author: Joel Sherrill 2018-10-13T22:52:24.000Z

Original author: sebastian.huber

How much is left to do on this ticket?

Author: Trac Migrate 2018-10-15T05:29:18.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"fb12215c29613d2f79f9d8515f74e1f7fc72f2d0/rtems" fb12215/rtems]:

```
1 build: Remove specialized CPPFLAGS
2
3 Close #3375.
```

4.2.1.452 3549 - Obsolete powerpc/virtex BSP

Id	3549
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-10-15T05:11:29.000Z
Updated	2018-10-15T05:15:00.000Z
Milestone	5.1
Labels	arch:powerpc, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3549
Merges	0

Original author: sebastian.huber

This BSP is quite old (was added 1995), unmaintained and likely without users:

<https://lists.rtems.org/pipermail/users/2018-September/032557.html>

Author: Trac Migrate 2018-10-15T05:15:00.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.453 3505 - powerpc/virtex redefined warning

Id	3505
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-08-22T17:39:21.000Z
Updated	2018-10-15T05:14:44.000Z
Milestone	5.1
Labels	arch:powerpc, priority::normal, resolution::wontfix, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3505
Merges	0

This looks like ppc403 and ppc405 are both defined but I am not seeing source of the ppc405 definition. The warning is in this section of code:

```
if defined (ppc403)
```

```
define exisr 0x040 /* DCR: external interrupt status register */
```

```
define exier 0x042 /* DCR: external interrupt enable register */
```

```
endif /* ppc403 */
```

```
if defined(ppc405)
```

```
define exisr 0x0C0 /* DCR: external interrupt status register */
```

```
define exier 0x0C2 /* DCR: external interrupt enable register */
```

```
endif /* ppc405 */
```

In file included from /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/score/percpu.h:228:0:
 from ../../../../../../rtems/c/src/lib/libbsp/powerpc/virtex/../../../../bsp/powerpc/shared/exception.h:228:0:
 /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/score/cpu/powerpc/include/rtems/asm.h:228:0:
 warning: "exisr" redefined

```
define exisr 0x0C0 /* DCR: external interrupt status register */
```

/home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/score/cpu/powerpc/include/rtems/asm.h:224:0:
 note: this is the location of the previous definition

```
define exisr 0x040 /* DCR: external interrupt status register */
```

/home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/score/cpu/powerpc/include/rtems/asm.h:229:0:
 warning: "exier" redefined

```
define exier 0x0C2 /* DCR: external interrupt enable register */
```

/home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/score/cpu/powerpc/include/rtems/asm.h:225:0:
note: this is the location of the previous definition

```
define exier 0x042 /* DCR: external interrupt enable register */
```

Author: Joel Sherrill 2018-08-22T17:39:34.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2018-09-05T05:41:38.000Z

Some ppc* defines are RTEMS-specific GCC built-in defines.

Author: Joel Sherrill 2018-10-14T00:52:17.000Z

We discussed removing this BSP on the mailing list. Is the resolution of this ticket to refer to a ticket to remove this BSP before 5.1 and close this as won't fix?

Author: Trac Migrate 2018-10-15T05:14:44.000Z

- **Resolution** set to ~"wontfix"
- **Status** changed from *assigned* to *closed*

4.2.1.454 3424 - examples-v2: no MIPS BSPs pass configuration step

Id	3424
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2018-05-01T14:44:24.000Z
Updated	2018-10-14T22:06:16.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3424
Merges	0

```
1 Checking for program 'ar' : /home/joel/rtems-work/tools/5/bin/
  ↳ mips-rtems5-ar
2 Checking for program 'g++, c++' : /home/joel/rtems-work/tools/5/bin/
  ↳ mips-rtems5-g++
3 Checking for program 'ar' : /home/joel/rtems-work/tools/5/bin/
```

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```

↪mips-rtems5-ar
4 Checking for program 'gas, gcc'           : /home/joel/rtems-work/tools/5/bin/
↪mips-rtems5-gcc
5 Checking for program 'ar'                 : /home/joel/rtems-work/tools/5/bin/
↪mips-rtems5-ar
6 Compiler version (mips-rtems5-gcc)       : 7.3.0 20180125 (RTEMS 5, RSB_
↪6d9c77c77d271d1fc2dfe8493d6713930b52a6dd, Newlib 3.0.0)
7 Checking for RTEMS CPU options header    : started
8 -> processing test results                : 1 test failed
9 One of the tests has failed, read config.log for more information
10 (complete log in /data/home/joel/rtems-work/examples-v2/build/config.log)
11 + check_fatal 1 'failed waf configure - examples-v2 on rbt4925'
```

Author: Chris Johns 2018-05-02T00:31:06.000Z

The check for RTEMS CPU options header fails. Does the BSP install rtems/score/cpuopts.h?

Author: Chris Johns 2018-05-02T00:33:52.000Z

- **Description** changed

```

1 + {{{
2 Checking for program 'ar'                 : /home/joel/rtems-work/
↪tools/5/bin/mips-rtems5-ar
3 Checking for program 'g++, c++'          : /home/joel/rtems-work/
↪tools/5/bin/mips-rtems5-g++
4 Checking for program 'ar'                 : /home/joel/rtems-work/
↪tools/5/bin/mips-rtems5-ar
5 Checking for program 'gas, gcc'          : /home/joel/rtems-work/
↪tools/5/bin/mips-rtems5-gcc
6 Checking for program 'ar'                 : /home/joel/rtems-work/
↪tools/5/bin/mips-rtems5-ar
7 Compiler version (mips-rtems5-gcc)       : 7.3.0 20180125 (RTEMS 5,
↪RSB 6d9c77c77d271d1fc2dfe8493d6713930b52a6dd, Newlib 3.0.0)
8 Checking for RTEMS CPU options header    : started
9 -> processing test results                : 1 test failed
10 One of the tests has failed, read config.log for more information
11 (complete log in /data/home/joel/rtems-work/examples-v2/build/config.
↪log)
12 + check_fatal 1 'failed waf configure - examples-v2 on rbt4925'
13 + }}}

```

Also the output says to read config.log for more information. Could you please report what it says is failing?

Author: Joel Sherrill 2018-10-13T22:34:50.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Joel Sherrill 2018-10-14T20:52:58.000Z

With the Makefile.inc system, all tests build successfully and this is the command sequence for hello_world_c

```
1 mips-rtems5-gcc --pipe -B/home/joel/rtems-work/tools/5/bsp-install/mips-
  ↪ rtems5/rbtx4925/lib/ -specs bsp_specs -qrtems -Wall -O2 -g -fomit-
  ↪ frame-pointer -ffunction-sections -fdata-sections -mips3 -G0 -EL ↪
  ↪ -c -o o-optimize/test.o test.c
2 mips-rtems5-gcc --pipe -B/home/joel/rtems-work/tools/5/bsp-install/mips-
  ↪ rtems5/rbtx4925/lib/ -specs bsp_specs -qrtems -Wall -O2 -g -fomit-
  ↪ frame-pointer -ffunction-sections -fdata-sections -mips3 -G0 -EL ↪
  ↪ -Wl,--gc-sections -mips3 -G0 -EL -o o-optimize/hello.exe o-
  ↪ optimize/test.o
```

With the following waf command, the configure fails:

```
1 ./waf configure --rtems=/home/joel/rtems-work/tools/5/bsp-install \
2 --rtems-tools=/home/joel/rtems-work/tools/5 --rtems-bsps=mips/rbtx4925
```

The test probe gcc is this:

```
1 [' /home/joel/rtems-work/tools/5/bin/mips-rtems5-g++', '-qrtems', '-B/
  ↪ home/joel/rtems-work/tools/5/bsp-install/mips-rtems5/lib/', '-B/home/
  ↪ joel/rtems-work/tools/5/bsp-install/mips-rtems5/rbtx4925/lib/', '--
  ↪ specs', 'bsp_specs', '-mips3', '-mips3', '-fomit-frame-pointer', '-
  ↪ fomit-frame-pointer', '-ffunction-sections', '-ffunction-sections', '-
  ↪ fdata-sections', '-fdata-sections', 'test.cpp.1.o', '-o/home/joel/
  ↪ rtems-work/examples-v2/build/.conf_check_
  ↪ 2580b0f878d416be57b9cf3634e02230/testbuild/testprog', '-Wl,-Bstatic',
  ↪ '-Wl,-Bdynamic']
2 err: /home/joel/rtems-work/tools/5/lib/gcc/mips-rtems5/7.3.0/../../../../
  ↪ /mips-rtems5/bin/ld: /home/joel/rtems-work/tools/5/bsp-install/mips-
  ↪ rtems5/rbtx4925/lib/start.o: compiled for a little endian system and
  ↪ target is big endian
```

Notice the -G0 and -EL (or -EB) are missing.

Author: Trac Migrate 2018-10-14T21:16:34.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"2fec1c587bc901b9192ee6d7e457cb72876a5e5a/rtems_waf" 2fec1c5/rtems_waf]:

```

1 rtems.py: Pass -EL, -EB, and -Gn to link phase
2
3 closes #3424.

```

Author: Trac Migrate 2018-10-14T21:20:39.000Z

In [changeset:"5e3264dbb6714641be657027e572eafa5df08ca3/examples-v2" 5e3264d/examples-v2]:

```

1 rtems_waf: Update to get #3424

```

Author: Trac Migrate 2018-10-14T22:06:16.000Z

In [changeset:"8992d20b8c28af7c95c8b95da054aa9d94521426/rtems-source-builder" 8992d20/rtems-source-builder]:

```

1 rtems-tools-5-1.cfg: Bump to latest
2
3 closes #3401, #3402, #3424.

```

4.2.1.455 3402 - dl06: mips hurricane Mixed Endian Error

Id	3402
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-04-17T13:57:15.000Z
Updated	2018-10-14T22:06:16.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3402
Merges	0

Also occurs on rbt4925 and rbt4938

```

rtems-ld -r /home/joel/rtems-work/rtems-testing/rtems/build-mips-hurricane-rtems/mips-
rtems5/c/hurricane -O rap -b dl06.pre -e rtems_main -s -o dl06.rap dl06-o1.o dl06-
o2.o -lm error: elf:check_file: /data/home/joel/rtems-work/tools/5/bin/./lib/gcc/mips-
rtems5/7.3.0/././././mips-rtems5/lib/libc.a:lib_a-_Exit.o@23298: Mixed data types not
allowed (LSB/MSB).

```

Author: Chris Johns 2018-04-18T01:15:58.000Z

Ouch, I will need to think about this one because rtems-ld does not know about mutilib configurations and the BSP has -mips3 -EL as options to the linker.

Author: Chris Johns 2018-04-18T01:28:13.000Z

Looking at the `rtemstoolkit/rld-cc.cpp` function `get_library_path()` is asking gcc for the path to a library and if this is being used it may be a simple matter of adding the `CFLAGS` or `CPU_FLAGS` to `rtems-ld`.

I suspect `-E` will need to be added to the flag filter list so as a machine flag.

Author: Trac Migrate 2018-10-14T21:57:35.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"632bb17556e1cecdc4fe723810dc1deec4d0f3/rtems" 632bb17/rtems]:

```
1 libtests/Makefile.am: Add CPU_CFLAGS to rtems-ld invocation
2
3 closes #3401, #3402.
```

Author: Trac Migrate 2018-10-14T21:59:18.000Z

In [changeset:"36fde5169aef5b0af37f951907705cae76626ee/rtems-tools" 36fde51/rtems-tools]:

```
1 rtemstoolkit/rld-cc.cpp: Accept -EL, -EB, and -Gn machine flags
2
3 closes #3401, #3402, $3424.
```

Author: Trac Migrate 2018-10-14T22:06:16.000Z

In [changeset:"8992d20b8c28af7c95c8b95da054aa9d94521426/rtems-source-builder" 8992d20/rtems-source-builder]:

```
1 rtems-tools-5-1.cfg: Bump to latest
2
3 closes #3401, #3402, #3424.
```

4.2.1.456 3401 - dl06: tms570* Mixed LSB/MSB Error

Id	3401
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-04-17T13:54:23.000Z
Updated	2018-10-14T22:06:16.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3401
Merges	0

ld-arm-tms570ls3137_hdk-rtems/arm-rtems5/c/tms570ls3137_hdk/testsuites/libtests' rtems-ld -r /home/joel/rtems-work/rtems-testing/rtems/build-arm-tms570ls3137_hdk-rtems/arm-rtems5/c/tms570ls3137_hdk -O rap -b dl06.pre -e rtems_main -s -o dl06.rap dl06-o1.o dl06-o2.o -lm error: elf:check_file: /data/home/joel/rtems-work/tools/5/bin/../lib/gcc/arm-rtems5/7.3.0/../../../../arm-rtems5/lib/libc.a:lib_a-_Exit.o@23760: Mixed data types not allowed (LSB/MSB).

Author: Joel Sherrill 2018-04-17T13:55:00.000Z

- **Owner** set to chrisj@rtems.org
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2018-10-14T21:57:35.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"632bb17556e1cecdc4fe723810dcdc1deec4d0f3/rtems" 632bb17/rtems]:

```
1 libtests/Makefile.am: Add CPU_CFLAGS to rtems-ld invocation
2
3 closes #3401, #3402.
```

Author: Trac Migrate 2018-10-14T21:59:18.000Z

In [changeset:"36fde5169aef5b0af37f951907705caee76626ee/rtems-tools" 36fde51/rtems-tools]:

```
1 rtemstoolkit/rld-cc.cpp: Accept -EL, -EB, and -Gn machine flags
2
3 closes #3401, #3402, $3424.
```

Author: Trac Migrate 2018-10-14T22:06:16.000Z

In [changeset:"8992d20b8c28af7c95c8b95da054aa9d94521426/rtems-source-builder" 8992d20/rtems-source-builder]:

```
1 rtems-tools-5-1.cfg: Bump to latest
2
3 closes #3401, #3402, #3424.
```

4.2.1.457 3309 - rtems_task_create's initial_mode SMP update

Id	3309
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2018-02-21T02:26:07.000Z
Updated	2018-10-14T01:11:23.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3309
Merges	0

The `initial_mode` cannot have the non-preempt flag or an interrupt level set or an `RTEMS_UNSATISFIED` error is returned. This is not documented in the directive.

Author: Chris Johns 2018-10-14T01:11:23.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

4.2.1.458 3374 - rtems-test does not honor -mail-from argument

Id	3374
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2018-03-26T23:18:07.000Z
Updated	2018-10-14T01:07:51.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3374
Merges	0

This is on the master but may apply to other branches.


```
$ /home/joel/rtems-work/rtems-tools//tester/rtems-test -rtems-tools=/home/joel/rtems-work/tools/5 -rtems-bsp=erc32 -log=run.log -mail -mail-from=joel@rtems.org -mailto=build@rtems.org ./sparc-rtems5/c/erc32/testsuites/samples/base_sp/base_sp.exe error: no valid from address for mail
```

The rtems-test command will work if you have a ~/.mailrc with something like this:

```
set from="Joel Sherrill <joel@rtems.org>"
```

Author: Joel Sherrill 2018-03-26T23:18:18.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Joel Sherrill 2018-10-14T01:07:51.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.459 3463 - Convert covoar to use DWARF function data

Id	3463
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Trac Migrate
Created	2018-06-21T07:46:46.000Z
Updated	2018-10-14T01:07:48.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3463
Merges	0

Convert covoar to use DWARF function data for the executable symbol table. Objdump is still needed for the instruction decode which is needed to find the instruction address boundaries.

Author: Chris Johns 2018-10-14T01:07:48.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

4.2.1.460 3512 - sb-check:No python command with Python 2 and Python 3 installed

Id	3512
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-09-06T01:40:46.000Z
Updated	2018-10-14T01:02:51.000Z
Milestone	5.1
Labels	priority::normal, resolution::duplicate, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3512
Merges	0

Original author: JustinP

On Ubuntu 18.04.1 LTS there is no command named Python. I have the following Python commands:

```

1 python2.7    python3.6    python3.6m-config
2 python3m-config  python 2.7-config    python3.6-config    python3-config
  ↳python3
3 python3.6m      python3m

```

I am going to symlink python2.7 to python to make it work, but there should be a better solution.

Author: Chris Johns 2018-10-14T01:02:51.000Z

Original author: JustinP

- **Resolution** set to ~"duplicate"
- **Status** changed from *new* to *closed*

See [#3537](#)

4.2.1.461 3389 - Warning flags have disappeared with recent autoconf changes

Id	3389
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-04-11T23:47:13.000Z
Updated	2018-10-14T00:50:39.000Z
Milestone	5.1
Labels	priority::high, resolution::fixed, rtems::config, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3389
Merges	0

As of March 30, the compiler invocations had warnings flags. As of today (4/11), there are no warnings flag on most of the compiler invocations.

Something has been lost in the updates.

Author: Chris Johns 2018-04-12T00:28:12.000Z

Are you able to git bisect and find the commit?

Author: Joel Sherrill 2018-04-18T13:44:07.000Z

I was unable to pin down the commit with a git bisect.

Author: Trac Migrate 2018-09-17T11:32:44.000Z

Fixed by [32481371e9e9e33aabf5e8634750ecd697c85531/rtems].

Author: Chris Johns 2018-10-14T00:50:39.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

4.2.1.462 3049 - Warnings in libdebugger

Id	3049
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2017-06-14T14:30:09.000Z
Updated	2018-10-14T00:48:28.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3049
Merges	0

I started fixing the warnings in libdebugger with the latest tools but apparently some of the variables can't be changed to const char *const. So filing as a ticket so Chris can fix them more accurately.

```

67      ../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-server.c:957:25:
warning: comparison between pointer and zero character constant [-Wpointer-
compare]      67      ../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-
server.c:61:19: warning: duplicate 'const' declaration specifier [-Wduplicate-decl-
specifier]      67      ../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-
server.c:60:19: warning: duplicate 'const' declaration specifier [-Wduplicate-decl-
specifier]      67      ../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-
server.c:53:14: warning: duplicate 'const' declaration specifier [-Wduplicate-decl-
specifier]      67      ../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-
server.c:1490:14: warning: duplicate 'const' declaration specifier [-Wduplicate-
decl-specifier]      67      ../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-
server.c:1426:14: warning: duplicate 'const' declaration specifier [-Wduplicate-
decl-specifier]      67      ../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-
server.c:1302:14: warning: duplicate 'const' declaration specifier [-Wduplicate-
decl-specifier]      67      ../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-
server.c:1260:14: warning: duplicate 'const' declaration specifier [-Wduplicate-
decl-specifier]      67      ../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-
server.c:1064:14: warning: duplicate 'const' declaration specifier [-Wduplicate-
decl-specifier]      67      ../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-
server.c:1025:14: warning: duplicate 'const' declaration specifier [-Wduplicate-
decl-specifier]      60      ../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-
arm.c:302:14: warning: duplicate 'const' declaration specifier [-Wduplicate-decl-specifier] 60
../../../../rtems/c/src/../../cpukit/libdebugger/rtems-debugger-arm.c:301:14: warning:
duplicate 'const' declaration specifier [-Wduplicate-decl-specifier]

```

Author: Joel Sherrill 2017-06-14T14:30:24.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Joel Sherrill 2018-10-14T00:48:28.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

4.2.1.463 2925 - Warnings in rtl-obj-cache.c on some targets

Id	2925
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2017-03-13T16:18:23.000Z
Updated	2018-10-14T00:47:25.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2925
Merges	0

These warnings are on m68k but not sparc, mips powerpc, or arm. Looks like inttypes.h should be used.

```
../../../../rtems/c/src/../../../../cpukit/libdl/rtl-obj-cache.c:175:47: warning: format '%d' expects argument of type 'int', but argument 3 has type 'long unsigned int' [-Wformat=]
../../../../rtems/c/src/../../../../cpukit/libdl/rtl-obj-cache.c:175:85: warning: format '%d' expects argument of type 'int', but argument 7 has type 'long unsigned int' [-Wformat=]
../../../../rtems/c/src/../../../../cpukit/libdl/rtl-obj-cache.c:81:67: warning: format '%d' expects argument of type 'int', but argument 7 has type 'long unsigned int' [-Wformat=]
../../../../rtems/c/src/../../../../cpukit/libdl/rtl-obj-cache.c:81:81: warning: format '%d' expects argument of type 'int', but argument 9 has type 'long unsigned int' [-Wformat=] ~
```

Author: Joel Sherrill 2017-03-13T16:18:35.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Joel Sherrill 2018-10-14T00:47:25.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

4.2.1.464 3127 - MIPS tool build on Darwin (MacOS) fails.

Id	3127
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-09-09T22:58:02.000Z
Updated	2018-10-14T00:38:59.000Z
Milestone	5.1
Labels	priority::high, resolution::fixed, tickettype::defect, tool::gcc, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3127
Merges	0

This is the same bug that effects FreeBSD. For details see:

https://gcc.gnu.org/bugzilla/show_bug.cgi?id=66032 https://gcc.gnu.org/bugzilla/show_bug.cgi?id=62097

Author: Joel Sherrill 2017-10-12T18:52:53.000Z

- **Summary** changed from *MIP tool build on Darwin (MacOS) fails.* to *MIPS tool build on Darwin (MacOS) fails.*

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Chris Johns 2018-10-14T00:38:59.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Fixed:

<https://lists.rtems.org/pipermail/build/2018-October/001117.html>

4.2.1.465 3229 - Add index to all documents.

Id	3229
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-11-11T23:08:36.000Z
Updated	2018-10-14T00:36:36.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3229
Merges	0

Indexes currently do not work. Fix this adding them to all documents.

Add index entries where possible.

Author: Chris Johns 2017-11-11T23:08:46.000Z

- **Status** changed from *assigned* to *accepted*

Author: Trac Migrate 2017-11-11T23:43:38.000Z

In [changeset:"42d50d760e6c829d5673299bb8c631b9fa5c1342/rtems-docs" 42d50d7/rtems-docs]:

```
1 Add indexes to all documents.
2
3 Update #3229.
```

Author: Chris Johns 2017-11-12T02:57:42.000Z

I have noticed all the c-user guide has .. index:: labels after headings and they should be before the headings. They need to be moved to before to make clicking on an index work better. This needs to happen on all documents.

Author: Trac Migrate 2017-11-12T03:35:39.000Z

In [changeset:"6c5640131fca82624f72b2bd33b5b5f46156626e/rtems-docs" 6c56401/rtems-docs]:

```
1 c-user: Fix index locations.
2
3 Update #3229.
```

Author: Trac Migrate 2017-11-13T02:27:40.000Z

In [changeset:"33849946ff6022c26722ec71248fd76aa55de4ef/rtems-docs" 3384994/rtems-docs]:

```

1 Clean up sphinx warnings.
2
3 - Fix minor formatting issues.
4 - Fix reference the gloassary TLS using ':term:'.
5 - Make sure nothing is between an anchor and the heading where ':ref:'
  ↳ references
6 the anchor. This meant moving all the recently added '.. index::'
  ↳ entries.
7
8 Update #3232.
9 Update #3229.
```

Author: Chris Johns 2017-11-14T22:04:30.000Z

The documentation README needs updating to explain the formatting I fixed in the last change in this ticket.

Author: Trac Migrate 2018-02-05T09:04:34.000Z

The index directives are still in the wrong place, e.g.

https://docs.rtems.org/branches/master/c-user/configuring_a_system.html#configure-bdbuf-buffer-count

Author: Trac Migrate 2018-02-05T09:48:28.000Z

In [changeset:"13debf57f82a1544e5ba4939a4efc200f540a71/rtems-docs" 13debf5/rtems-docs]:

```

1 c-user: Fix index directives
2
3 Update #3229.
```

Author: Joel Sherrill 2018-10-14T00:36:36.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

Fixed on review doc master.

4.2.1.466 3421 - New Trac components for Coverage and Trace

Id	3421
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-04-30T23:21:24.000Z
Updated	2018-10-13T22:29:02.000Z
Milestone	5.1
Labels	priority::normal, resolution::wontfix, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3421
Merges	0

Both coverage and tracing are large enough areas that lumping them into tools or other random categories makes work on them harder to trac.

Please add coverage and tracing. Coverage could be a subcategory of tools. Tracing could be a standalone component. It has target and tool components.

Author: Joel Sherrill 2018-10-13T22:29:02.000Z

- **Resolution** set to ~"wontfix"
- **Status** changed from *assigned* to *closed*

These should be filed as tool with an appropriate keyword.

4.2.1.467 3415 - Add examples and tests as components

Id	3415
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2018-04-25T23:53:32.000Z
Updated	2018-10-13T22:27:53.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3415
Merges	0

It seems as if we should have tests and examples as components.

Author: Joel Sherrill 2018-04-25T23:54:01.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Joel Sherrill 2018-10-13T22:27:53.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Test and examples have been added.

4.2.1.468 3543 - Change Telnet server to allocate most resources during initialization

Id	3543
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-10-09T12:56:35.000Z
Updated	2018-10-11T07:12:08.000Z
Milestone	5.1
Labels	library, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3543
Merges	0

Original author: sebastian.huber

The Telnet server currently creates the resources needed for a client connection on demand. Allocate most resources during initialization to avoid sporadic resource shortage issues.

Author: Trac Migrate 2018-10-11T07:11:14.000Z

Original author: sebastian.huber

In [changeset:"6d3ec58a52feb89bf98f8f883c075580727bc3d7/rtems" 6d3ec58/rtems]:

```

1 telnetd: Simplify task spawn function
2
3 Use the minimum task size for the telnet server task since it has to
4 deal only with simple socket operations.
5
6 Update #3543.
```

Author: Trac Migrate 2018-10-11T07:11:25.000Z

Original author: sebastian.huber

In [changeset:"1c567c56c0597d99a16da826f4020b69254b893c/rtems" 1c567c5/rtems]:

```

1 telnetd: Rename shell_args to telnetd_session
2
3 Update #3543.

```

Author: Trac Migrate 2018-10-11T07:11:35.000Z

Original author: sebastian.huber

In [changeset:"bf4c7ff6ab8df166c42007501eb690ec738ef0f5/rtems"
bf4c7ff6/rtems]:

```

1 telnetd: Create server socket at start
2
3 Update #3543.

```

Author: Trac Migrate 2018-10-11T07:11:46.000Z

Original author: sebastian.huber

In [changeset:"0f0e130051cd4aba49885681c60ff226927e143e/rtems"
0f0e130/rtems]:

```

1 telnetd: Allocate the server context
2
3 Update #3543.

```

Author: Trac Migrate 2018-10-11T07:11:57.000Z

Original author: sebastian.huber

In [changeset:"0dc303f09dbb3a8e681c899f9452fa1731adf8e0/rtems"
0dc303f/rtems]:

```

1 telnetd: Create sessions at start
2
3 Update #3543.

```

Author: Trac Migrate 2018-10-11T07:12:08.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"26b58b7e4af27b632a3765249ba8f8a9b024fa08/rtems"
26b58b7e/rtems]:

```

1 telnetd: Add server port to configuration
2
3 Close #3543.

```

4.2.1.469 3542 - Remove keep_stdio feature from Telnet service

Id	3542
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-10-09T12:14:38.000Z
Updated	2018-10-10T12:06:50.000Z
Milestone	5.1
Labels	library, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3542
Merges	0

Original author: sebastian.huber

The Telnet service started via `rtems_telnetd_start()` has a `keep_stdio` feature. This just a task and executes the command function in a loop. For this kind of service we do not library support. This can be done by an application task on its own. Remove this functionality and provide only the real Telnet services.

Author: Trac Migrate 2018-10-10T12:06:50.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"629faf95046cddedc161ba9bc43fda925ca04ee5/rtems" 629faf9/rtems]:

```

1 telnetd: Remove keep stdio feature
2
3 The Telnet service started via rtems_telnetd_start() had a keep stdio
4 feature. This just created a task and executed the command function in
5 a loop. For this kind of service we do not library support. This can
6 be done by an application task on its own. Remove this feature and
7 provide only the real Telnet server functionality.
8
9 Use syslog() for error and status messages.
10
11 Add test program for the Telnet server.
12
13 Close #3542.

```

4.2.1.470 3531 - Add POSIX Attribute Reports for More Than Scheduler (examples-v2)

Id	3531
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2018-09-26T14:43:37.000Z
Updated	2018-10-08T15:56:51.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3531
Merges	0

Add programs to report default attributes for various POSIX objects including barriers, condition variables, message queues, mutexes, pthreads, and rwlocks. The programs should be able to run on any POSIX host and report what it uses for object attribute defaults.

Object attribute defaults are unspecified by POSIX. The portable practice is to explicitly set every attribute. These programs allow one to probe and compare various operating system implementations.

Author: Joel Sherrill 2018-09-26T14:43:47.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2018-10-08T15:56:51.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"f4ce641b374a20b650c31f60d03424d21d7fcbdf/examples-v2" f4ce641/examples-v2]:

```

1 Add various programs to report default attributes for various POSIX
  ↪ objects
2
3 Closes #3531.
```

4.2.1.471 3465 - Integrate all changes from Linux v3.11 to v4.17 made in the JFFS2 sources

Id	3465
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-07-02T05:40:49.000Z
Updated	2018-10-08T05:16:02.000Z
Milestone	5.1
Labels	filesystem::jffs2, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3465
Merges	0

Original author: sebastian.huber

The original import version of the JFFS2 sources was Linux v3.11 (September 2013). Update the JFFS2 sources to Linux v4.17.

The Git command to generate the patches is:

```
1 git format-patch v3.11..v4.17 -- include/uapi/linux/jffs2.h fs/jffs2/LICENCE fs/
  ↳ jffs2/acl.h fs/jffs2/build.c fs/jffs2/compr.c fs/jffs2/compr.h fs/jffs2/compr_
  ↳ rtime.c fs/jffs2/compr_rubin.c fs/jffs2/compr_zlib.c fs/jffs2/debug.c fs/jffs2/
  ↳ debug.h fs/jffs2/erase.c fs/jffs2/gc.c fs/jffs2/jffs2_fs_i.h fs/jffs2/jffs2_fs_
  ↳ sb.h fs/jffs2/nodelist.c fs/jffs2/nodelist.h fs/jffs2/nodemgmt.c fs/jffs2/read.
  ↳ c fs/jffs2/readinode.c fs/jffs2/scan.c fs/jffs2/summary.h fs/jffs2/write.c fs/
  ↳ jffs2/xattr.h
```

We need a source file transformation in the patches:

```
1 sed -i 's%/fs/jffs2%/cpukit/libfs/src/jffs2/src%g' 00*
```

To support the first commit:

```
1 From e8bbeeb755a077cfc0f814b07739f9225642d65c Mon Sep 17 00:00:00 2001
2 From: Cody P Schafer <cody@linux.vnet.ibm.com>
3 Date: Thu, 23 Jan 2014 15:56:11 -0800
4 Subject: [PATCH 01/24] fs/jffs2: use rbtree postorder iteration helper instead
5 of opencoding
6
7 Use rbtree_postorder_for_each_entry_safe() to destroy the rbtree instead
8 of opencoding an alternate postorder iteration that modifies the tree
9
10 Signed-off-by: Cody P Schafer <cody@linux.vnet.ibm.com>
11 Cc: Michel Lespinasse <walken@google.com>
12 Cc: Jan Kara <jack@suse.cz>
13 Cc: David Woodhouse <dwmw2@infradead.org>
14 Signed-off-by: Andrew Morton <akpm@linux-foundation.org>
15 Signed-off-by: Linus Torvalds <torvalds@linux-foundation.org>
```

we have to a postorder iterator to the red-black tree support code.

The remaining 23 patches are easy to apply.

Author: Trac Migrate 2018-07-16T05:54:17.000Z

Original author: sebastian.huber

In [changeset:"6539beab824d4b9718fc0ea841791caacb8ac02f/rtems" 6539bea/rtems]:

```
1 score: Add postorder tree iteration support
2
3 Update #3465.
```

Author: Trac Migrate 2018-07-16T05:58:13.000Z

Original author: sebastian.huber

In [changeset:"877aeab6d2f87833554ebacb8056fc3bccfd8d9f/rtems" 877aeab/rtems]:

```
1 linux: Install <linux/rbtree.h>
2
3 This makes it possible to test this API.
4
5 Update #3465.
```

Author: Trac Migrate 2018-07-16T06:02:08.000Z

Original author: sebastian.huber

In [changeset:"0cb425704b7ecb6859d3cc21f266dc52ee241101/rtems" 0cb4257/rtems]:

```
1 linux: Simplify <linux/rbtree.h>
2
3 Remove the placeholder struct rb_node and use RbTreeNode directly via
4 some C pre-processor defines to adjust the member names.
5
6 Update #3465.
```

Author: Trac Migrate 2018-07-16T06:06:03.000Z

Original author: sebastian.huber

In [changeset:"22d9575fd038721cc7462911275336f1b5255381/rtems" 22d9575/rtems]:

```

1 linux: Add rbtree_postorder_for_each_entry_safe()
2
3 Update #3465.

```

Author: Trac Migrate 2018-07-16T06:51:28.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"00a19d6f92e392c0e3ddc331ab633f28a79dcadd/rtems"00a19d6/rtems]:

```

1 jffs2: Add README
2
3 Add README to document the corresponding Linux version and the update
4 procedure.
5
6 Close #3465.

```

Author: Trac Migrate 2018-07-19T05:12:49.000Z

Original author: sebastian.huber

In [changeset:"b4f15d8e3b19546079aef112bd4649be9eaf1327/rtems"b4f15d8/rtems]:

```

1 jffs2: Rename README to VERSION
2
3 This makes it easier to find files describing an upstream version, e.g.
4 via "find -name VERSION".
5
6 Update #3465.

```

Author: Trac Migrate 2018-10-08T05:16:02.000Z

Original author: sebastian.huber

In [changeset:"4a7c68675d26990b6d28b9820b837322e2b234a2/rtems"4a7c6867/rtems]:

```

1 Fix rbtree_postorder_for_each_entry_safe()
2
3 Use the non-standard typeof operator to avoid code generation errors
4 with clang and use of uninitialized variable warnings with GCC and
5 Coverity Scan.
6
7 Update #3465.

```


4.2.1.472 3538 - Classic API Barrier Wait Section Title Has Wrong Name

Id	3538
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2018-10-03T16:18:12.000Z
Updated	2018-10-05T21:27:59.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3538
Merges	0

The section title says obtain not wait.

Likely also applies to 4.11.

Author: Joel Sherrill 2018-10-03T16:18:20.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2018-10-05T21:27:59.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"304bc2c873cb0cab20490db113e343a36487cb91/rtems-docs" 304bc2c/rtems-docs]:

```
1 barrier_manager.rst: Fix Barrier Wait Section Title
2
3 closes #3538.
```

4.2.1.473 3535 - Remove stdin, stdout, stderr convenience routines for CEXP

Id	3535
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-10-01T06:18:05.000Z
Updated	2018-10-04T08:49:45.000Z
Milestone	5.1
Labels	library, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3535
Merges	0

Original author: sebastian.huber

These functions should be moved to a general CEXP support.

Author: Trac Migrate 2018-10-04T08:49:45.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"57a7ecdee54a5c3e4a3bbd45f611bf6973b44e7e/rtems" 57a7ecde/rtems]:

```
1 telnetd: Remove CEXP convenience routines
2
3 Close #3535.
```

4.2.1.474 3536 - Move RTEMS configuration data to a common *config* directory

Id	3536
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2018-10-02T06:49:45.000Z
Updated	2018-10-03T01:51:51.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3536
Merges	0

Move the `rtems-bsp-builder` configuration files to a common area in the RTEMS Tools project and create an `rtems.py` module to handle the configuration. This allows a number of tools access to the `arch/bsp` data.

In time this directory of data can move into the `rtems.git` repo.

Author: Trac Migrate 2018-10-03T01:51:51.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"5416cfa39dd6b386958571f925b72a15fd63372b/rtems-tools" 5416cfa/rtems-tools]:

```
1 config: Create a config directory and move the RTEMS arch/bsp data to
  ↪ it.
2
3 Closes #3536
```

4.2.1.475 3526 - Convert PTY driver to new Termios API

Id	3526
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-09-25T08:38:57.000Z
Updated	2018-10-02T05:13:16.000Z
Milestone	5.1
Labels	device::serial, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3526
Merges	0

Original author: sebastian.huber

Author: Trac Migrate 2018-10-01T10:34:12.000Z

Original author: sebastian.huber

In [changeset:"ac9f80874fc8e252bb8e5184c455f02e4ba7816a/rtems" ac9f808/rtems]:

```
1 pppd: Remove unused get_pty() function
2
3 Update #3526.
```

Author: Trac Migrate 2018-10-01T10:34:24.000Z

Original author: sebastian.huber

In [changeset:"b980f363069cd7d44598188ce0de732fdd7e19f3/rtems" b980f363/rtems]:

```
1 telnetd: Convert pty driver to new Termios API
2
3 Update #3526.
```

Author: Trac Migrate 2018-10-01T10:35:16.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"a346ebba9c0ccd61072c6a2cfa8025d2882c2db4/rtems" a346ebba/rtems]:

```

1 telnetd: Remove CONFIGURE_MAXIMUM_PTYS
2
3 Add a rtems_telnetd_config_table::client_maximum member to the Telnet
4 configuration.
5
6 Close #3526.
7 Close #3528.

```

Author: Trac Migrate 2018-10-02T05:13:16.000Z

Original author: sebastian.huber

In [changeset:"38c1a410fc04f0e5400bc990d96c5a41ff95e278/rtems-libbsd" 38c1a41/rtems-libbsd]:

```

1 telnetd: Update due to API changes
2
3 Update #3526.

```

4.2.1.476 3528 - Remove undocumented and untested CONFIGURE_MAXIMUM_PTYS

Id	3528
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-09-26T05:53:03.000Z
Updated	2018-10-01T10:35:16.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::config, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3528
Merges	0

Original author: sebastian.huber

Remove the undocumented and untested CONFIGURE_MAXIMUM_PTYS configuration option. Add a rtems_telnetd_config_table::client_maximum member to the Telnet configuration.

Author: Trac Migrate 2018-10-01T10:34:37.000Z

Original author: sebastian.huber

In [changeset:"0413b14cf7b2007f62f6f525fd35f83656ab3930/rtems" 0413b14/rtems]:

```

1 telnetd: Remove superfluous global variable
2
3 Update #3528.

```

Author: Trac Migrate 2018-10-01T10:35:16.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"a346ebba9c0ccd61072c6a2cfa8025d2882c2db4/rtems" a346ebba/rtems]:

```
1 telnetd: Remove CONFIGURE_MAXIMUM_PTYS
2
3 Add a rtems_telnetd_config_table::client_maximum member to the Telnet
4 configuration.
5
6 Close #3526.
7 Close #3528.
```

4.2.1.477 3243 - Simplify global construction

Id	3243
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-11-21T06:53:42.000Z
Updated	2018-10-01T10:28:33.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3243
Merges	0

Original author: sebastian.huber

For the SMP support the global construction was changed to use an approach with a thread restart after global construction. With this implementation thread-local objects and POSIX keys initialized during global construction are not present in the initialization thread (main thread). This is not in line with what users familiar with GNU/Linux or FreeBSD would expect. See for example:

<https://lists.rtems.org/pipermail/users/2017-July/031525.html>

Author: Trac Migrate 2017-11-22T12:01:56.000Z

Original author: sebastian.huber

In [changeset:"a7dcef97e93240b1947a0094b1af91e9b9324a30/rtems" a7dcef97/rtems]:

```

1 score: Simplify global construction
2
3 Update #3243.

```

Author: Trac Migrate 2017-11-22T12:02:08.000Z

Original author: sebastian.huber

In [changeset:"cd3e2204c74f032f8088f0426ed2a3732bdedf8d/rtems" cd3e220/rtems]:

```

1 INTERNAL_ERROR_POSIX_INIT_THREAD_ENTRY_IS_NULL
2
3 Delete superfluous INTERNAL_ERROR_POSIX_INIT_THREAD_ENTRY_IS_NULL.
4
5 Update #3243.

```

Author: Trac Migrate 2017-11-24T05:57:02.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"674b71470bf666cde68656b0d602d0d3dc8443f3/rtems-docs" 674b714/rtems-docs]:

```

1 c-user: Document global construction
2
3 Close #3243.

```

Author: Trac Migrate 2018-10-01T10:28:33.000Z

Original author: sebastian.huber

In [changeset:"061474372330d9ddeeb5bbd45c7235565a0ae525/rtems" 0614743/rtems]:

```

1 spthreadlife01: Remove superfluous restart case
2
3 Update #3243.

```

4.2.1.478 3525 - Add MMC/SDCard support for i.MX 7Dual BSP

Id	3525
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-09-25T07:39:45.000Z
Updated	2018-09-28T16:08:38.000Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3525
Merges	0

Original author: sebastian.huber

Port device drivers from FreeBSD for i.MX 7Dual uSDHC module.

Author: Trac Migrate 2018-09-25T08:02:26.000Z

Original author: sebastian.huber

In [changeset:"b42dea9e51579ee27f1e063e75b936fec6c55141/rtems-libbsd" b42dea9/rtems-libbsd]:

```

1 CONFIG_INTRHOOK(9): Port to RTEMS
2
3 Some device drivers (e.g. MMC) need a complex initialization with working
4 callouts. Remove the dummy CONFIG_INTRHOOK() implementation and replace
5 it with the real one from FreeBSD. Make sure TIMEOUT(9) services work
6 at this point.
7
8 Update #3525.
```

Author: Trac Migrate 2018-09-25T08:02:34.000Z

Original author: sebastian.huber

In [changeset:"13840c1bea02084c95d5388a3aa3ba8d5991928d/rtems-libbsd" 13840c1/rtems-libbsd]:

```

1 Update gpio interface
2
3 Update #3525.
```

Author: Trac Migrate 2018-09-25T08:02:42.000Z

Original author: sebastian.huber

In [changeset:"7e8e1770f27e888839ff98737c20f528f794744b/rtems-libbsd" 7e8e177/rtems-libbsd]:

```
1 imx/imx_gpio.c: Import from FreeBSD
2
3 Update #3525.
```

Author: Trac Migrate 2018-09-25T08:02:50.000Z

Original author: sebastian.huber

In [changeset:"06dd40e5447933d2f7a6f744e08661c91146216d/rtems-libbsd" 06dd40e/rtems-libbsd]:

```
1 imx/imx_gpio.c: Port to RTEMS
2
3 Update #3525.
```

Author: Trac Migrate 2018-09-25T08:02:57.000Z

Original author: sebastian.huber

In [changeset:"6721f56bca1888a755bab35a891bc70e1c9c0176/rtems-libbsd" 6721f56/rtems-libbsd]:

```
1 fsl_sdhci.c: Import from FreeBSD
2
3 Update #3525.
```

Author: Trac Migrate 2018-09-25T08:03:05.000Z

Original author: sebastian.huber

In [changeset:"b3825029ff0d766538aa769bc00934a4de8f6fdd/rtems-libbsd" b382502/rtems-libbsd]:

```
1 fsl_sdhci.c: Port to RTEMS
2
3 Update #3525.
```

Author: Trac Migrate 2018-09-25T08:14:09.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"bd25da88057e9a4435e49a04df1c9e89ff0dfdf2/rtems-docs" bd25da8/rtems-docs]:


```
1 user: Add i.MX 7D MMC/SDCard driver
2
3 Close #3525.
```

Author: Trac Migrate 2018-09-27T05:23:40.000Z

Original author: sebastian.huber

In [changeset:"69a24c3cb070192ebf32e5673af6974771aef1a9/rtems"
69a24c3/rtems]:

```
1 bsp/imx: Add imx_ccm_sdhci_hz()
2
3 Update #3525.
```

Author: Trac Migrate 2018-09-27T05:28:51.000Z

Original author: sebastian.huber

In [changeset:"8645b5501739beaf8ff043d9c43330f1096e1bbc/rtems-libbsd"
8645b550/rtems-libbsd]:

```
1 fsl_sdhci.c: Fix missing include error
2
3 Update #3525.
```

Author: Trac Migrate 2018-09-28T16:08:38.000Z

Original author: sebastian.huber

In [changeset:"b54bd9546e186ce98f47a6d0aa242340e2eac82b/rtems-libbsd"
b54bd95/rtems-libbsd]:

```
1 fsl_sdhci.c: Fix missing include error
2
3 Update #3525.
```

4.2.1.479 3516 - sb-set-builder should report disk usage of build

Id	3516
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2018-09-13T17:09:34.000Z
Updated	2018-09-27T22:18:50.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, ticket-type::enhancement, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3516
Merges	0

Helping others work through the hello world, it is common for their VM images to not have enough disk space for the build to complete. It would be useful if the set-builder could report disk usage of the build/ directory. This information could be fed into the Users Guide.

It is frustrating and a bad experience to watch the build fail 90% of the way through.

Author: Joel Sherrill 2018-09-13T17:09:54.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

Author: Joel Sherrill 2018-09-13T18:28:23.000Z

I did a sparc tools build and it used 7.9 GB in build/. That probably means you need 12-15GB to have all the sources, rtems, and build RTEMS. Needs to be verified by others and to other architectures.

Author: Chris Johns 2018-09-15T23:38:54.000Z

What do you define as space that needs to be accounted for?

1. The build tree after each package in a build set has been built?
2. Installed files?
3. Source and patches?

Author: Joel Sherrill 2018-09-16T00:00:08.000Z

Replying to [Chris Johns](#):

What do you define as space that needs to be accounted for? 1. The build tree after each package in a build set has been built? 2. Installed files? 3. Source and patches?

Good questions. The ultimate answer is all of that. :)

The build tree peak is a critical piece of information. I saw people run out of disk space during the gcc/newlib phase. If we knew that, our instructions could give guidance. I did a no clean and was left with 8GB in build for SPARC. That's probably harsh if normally each package's build is cleaned. But SPARC now has more multilibs than I expected but arm and powerpc both have a lot also.

The question is "how much do I need to build the tools for architecture X?" That includes source tarballs, git, patches, peak space for untar'ed, and peak build usage. And ideally we want to give advice that leaves people enough room to clone RTEMS and build it.

How can we get the input to give good advice that avoids folks running out of build space during the "getting started"?

Author: Chris Johns 2018-09-16T03:35:55.000Z

I have taken a look at implementing this and it is not easy and complex to do so I do not think I will adding this feature.

The prep, build and clean are all part of a shell script that is generated and run and while I could add some du commands to the script to dump the sizes there is no way to capture the output in a way that can be reported.

I feel it is simpler to create a script to wrap the sb-set-builder command with the --no-clean option and then dump the sizes once built. If this is run on a machine with plenty of storage you should be able to get the results to update the user manual.

Author: Chris Johns 2018-09-17T04:06:24.000Z

Replying to [Chris Johns](#):

I have taken a look at implementing this and it is not easy and complex to do so I do not think I will adding this feature. The prep, build and clean are all part of a shell script that is generated and run and while I could add some du commands to the script to dump the sizes there is no way to capture the output in a way that can be reported.

I have taken a further look and it looks like the clean phase of the script is not being used and the RSB is cleaning a build in Python. This makes implementing something possible. I still need to check all the .cfg files to see if this is true.

The issue is any shell variables defined in one phase could be used in another phase and splitting the scripts means the variables or settings will not seen in subsequent phases.

Author: Chris Johns 2018-09-20T03:20:07.000Z

I am concerned there is another issue which cause the overflow of a VM disk. What is in the 7.9G build directory?

I have a patch I am testing which gives the following output for a rtems-sparc build:

```
1 Build Sizes: usage: 3.661GB total: 2.412GB (sources: 1.472GB, patches: ↵
  ↵6.630MB, installed 955.801MB)
```

The full output is:

```
1 $ ../source-builder/sb-set-builder --prefix=/opt/work/rtems/5 --log=5-
  ↵sparc.txt 5/rtems-sparc
2 RTEMS Source Builder - Set Builder, 5 (a16bfe19effa modified)
3 Build Set: 5/rtems-sparc
4 Build Set: 5/rtems-autotools.bset
5 Build Set: 5/rtems-autotools-internal.bset
6 config: tools/rtems-autoconf-2.69-1.cfg
7 package: autoconf-2.69-x86_64-freebsd11.1-1
8 building: autoconf-2.69-x86_64-freebsd11.1-1
9 sizes: autoconf-2.69-x86_64-freebsd11.1-1: 7.506MB (installed: 0.000B)
10 cleaning: autoconf-2.69-x86_64-freebsd11.1-1
11 config: tools/rtems-automake-1.12.6-1.cfg
12 package: automake-1.12.6-x86_64-freebsd11.1-1
13 building: automake-1.12.6-x86_64-freebsd11.1-1
14 sizes: automake-1.12.6-x86_64-freebsd11.1-1: 8.326MB (installed: 0.000B)
15 cleaning: automake-1.12.6-x86_64-freebsd11.1-1
16 cleaning: autoconf-2.69-x86_64-freebsd11.1-1
17 cleaning: automake-1.12.6-x86_64-freebsd11.1-1
18 Build Sizes: usage: 8.326MB total: 1.479GB (sources: 1.472GB, patches: ↵
  ↵6.630MB, installed 0.000B)
19 Build Set: Time 0:00:05.622352
20 Build Set: 5/rtems-autotools-base.bset
21 config: tools/rtems-autoconf-2.69-1.cfg
22 package: autoconf-2.69-x86_64-freebsd11.1-1
23 building: autoconf-2.69-x86_64-freebsd11.1-1
24 sizes: autoconf-2.69-x86_64-freebsd11.1-1: 7.503MB (installed: 3.033MB)
25 cleaning: autoconf-2.69-x86_64-freebsd11.1-1
26 reporting: tools/rtems-autoconf-2.69-1.cfg -> autoconf-2.69-x86_64-
  ↵freebsd11.1-1.txt
27 reporting: tools/rtems-autoconf-2.69-1.cfg -> autoconf-2.69-x86_64-
  ↵freebsd11.1-1.xml
28 config: tools/rtems-automake-1.12.6-1.cfg
29 package: automake-1.12.6-x86_64-freebsd11.1-1
30 building: automake-1.12.6-x86_64-freebsd11.1-1
31 sizes: automake-1.12.6-x86_64-freebsd11.1-1: 8.325MB (installed: 2.
  ↵264MB)
32 cleaning: automake-1.12.6-x86_64-freebsd11.1-1
33 reporting: tools/rtems-automake-1.12.6-1.cfg -> automake-1.12.6-x86_64-
  ↵freebsd11.1-1.txt
34 reporting: tools/rtems-automake-1.12.6-1.cfg -> automake-1.12.6-x86_64-
  ↵freebsd11.1-1.xml
```

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```

35 installing: autoconf-2.69-x86_64-freebsd11.1-1 -> /opt/work/rtems/5
36 installing: automake-1.12.6-x86_64-freebsd11.1-1 -> /opt/work/rtems/5
37 cleaning: autoconf-2.69-x86_64-freebsd11.1-1
38 cleaning: automake-1.12.6-x86_64-freebsd11.1-1
39 Build Sizes: usage: 8.325MB total: 1.484GB (sources: 1.472GB, patches: ↪
↪ 6.630MB, installed 5.298MB)
40 Build Set: Time 0:00:07.382470
41 Build Set: Time 0:00:13.008615
42 config: devel/expat-2.1.0-1.cfg
43 package: expat-2.1.0-x86_64-freebsd11.1-1
44 building: expat-2.1.0-x86_64-freebsd11.1-1
45 sizes: expat-2.1.0-x86_64-freebsd11.1-1: 4.171MB (installed: 623.483KB)
46 cleaning: expat-2.1.0-x86_64-freebsd11.1-1
47 reporting: devel/expat-2.1.0-1.cfg -> expat-2.1.0-x86_64-freebsd11.1-1.
↪ txt
48 reporting: devel/expat-2.1.0-1.cfg -> expat-2.1.0-x86_64-freebsd11.1-1.
↪ xml
49 config: tools/rtems-binutils-2.31.1.cfg
50 package: sparc-rtems5-binutils-2.31.1-x86_64-freebsd11.1-1
51 building: sparc-rtems5-binutils-2.31.1-x86_64-freebsd11.1-1
52 sizes: sparc-rtems5-binutils-2.31.1-x86_64-freebsd11.1-1: 250.532MB ↪
↪ (installed: 29.078MB)
53 cleaning: sparc-rtems5-binutils-2.31.1-x86_64-freebsd11.1-1
54 reporting: tools/rtems-binutils-2.31.1.cfg -> sparc-rtems5-binutils-2.
↪ 31.1-x86_64-freebsd11.1-1.txt
55 reporting: tools/rtems-binutils-2.31.1.cfg -> sparc-rtems5-binutils-2.
↪ 31.1-x86_64-freebsd11.1-1.xml
56 config: tools/rtems-gcc-7.3.0-newlib-
↪ d13c84eb07e35984bf7a974cd786a6cdac29e6b9.cfg
57 package: sparc-rtems5-gcc-7.3.0-newlib-
↪ d13c84eb07e35984bf7a974cd786a6cdac29e6b9-x86_64-freebsd11.1-1
58 building: sparc-rtems5-gcc-7.3.0-newlib-
↪ d13c84eb07e35984bf7a974cd786a6cdac29e6b9-x86_64-freebsd11.1-1
59 sizes: sparc-rtems5-gcc-7.3.0-newlib-
↪ d13c84eb07e35984bf7a974cd786a6cdac29e6b9-x86_64-freebsd11.1-1: 3.
↪ 661GB (installed: 846.775MB)
60 cleaning: sparc-rtems5-gcc-7.3.0-newlib-
↪ d13c84eb07e35984bf7a974cd786a6cdac29e6b9-x86_64-freebsd11.1-1
61 reporting: tools/rtems-gcc-7.3.0-newlib-
↪ d13c84eb07e35984bf7a974cd786a6cdac29e6b9.cfg -> sparc-rtems5-gcc-7.3.
↪ 0-newlib-d13c84eb07e35984bf7a974cd786a6cdac29e6b9-x86_64-freebsd11.1-
↪ 1.txt
62 reporting: tools/rtems-gcc-7.3.0-newlib-
↪ d13c84eb07e35984bf7a974cd786a6cdac29e6b9.cfg -> sparc-rtems5-gcc-7.3.
↪ 0-newlib-d13c84eb07e35984bf7a974cd786a6cdac29e6b9-x86_64-freebsd11.1-
↪ 1.xml
63 config: tools/rtems-gdb-8.0.1-1.cfg
64 package: sparc-rtems5-gdb-8.0.1-x86_64-freebsd11.1-1
65 building: sparc-rtems5-gdb-8.0.1-x86_64-freebsd11.1-1

```

(continues on next page)

(continued from previous page)

```

66 sizes: sparc-rtems5-gdb-8.0.1-x86_64-freebsd11.1-1: 223.999MB
    ↪(installed: 12.948MB)
67 cleaning: sparc-rtems5-gdb-8.0.1-x86_64-freebsd11.1-1
68 reporting: tools/rtems-gdb-8.0.1-1.cfg -> sparc-rtems5-gdb-8.0.1-x86_64-
    ↪freebsd11.1-1.txt
69 reporting: tools/rtems-gdb-8.0.1-1.cfg -> sparc-rtems5-gdb-8.0.1-x86_64-
    ↪freebsd11.1-1.xml
70 config: tools/rtems-tools-5-1.cfg
71 package: rtems-tools-d343f830f4dae8e84b4b44902347c60cf18b2ffd-1
72 building: rtems-tools-d343f830f4dae8e84b4b44902347c60cf18b2ffd-1
73 sizes: rtems-tools-d343f830f4dae8e84b4b44902347c60cf18b2ffd-1: 189.
    ↪996MB (installed: 66.392MB)
74 cleaning: rtems-tools-d343f830f4dae8e84b4b44902347c60cf18b2ffd-1
75 reporting: tools/rtems-tools-5-1.cfg -> rtems-tools-
    ↪d343f830f4dae8e84b4b44902347c60cf18b2ffd-1.txt
76 reporting: tools/rtems-tools-5-1.cfg -> rtems-tools-
    ↪d343f830f4dae8e84b4b44902347c60cf18b2ffd-1.xml
77 config: tools/rtems-kernel-5.cfg
78 package: sparc-rtems5-kernel-5-1
79 building: sparc-rtems5-kernel-5-1
80 sizes: sparc-rtems5-kernel-5-1: 8.308KB (installed: 0.000B)
81 cleaning: sparc-rtems5-kernel-5-1
82 reporting: tools/rtems-kernel-5.cfg -> sparc-rtems5-kernel-5-1.txt
83 reporting: tools/rtems-kernel-5.cfg -> sparc-rtems5-kernel-5-1.xml
84 installing: expat-2.1.0-x86_64-freebsd11.1-1 -> /opt/work/rtems/5
85 installing: sparc-rtems5-binutils-2.31.1-x86_64-freebsd11.1-1 -> /opt/
    ↪work/rtems/5
86 installing: sparc-rtems5-gcc-7.3.0-newlib-
    ↪d13c84eb07e35984bf7a974cd786a6cdac29e6b9-x86_64-freebsd11.1-1 -> /opt/
    ↪work/rtems/5
87 installing: sparc-rtems5-gdb-8.0.1-x86_64-freebsd11.1-1 -> /opt/work/
    ↪rtems/5
88 installing: rtems-tools-d343f830f4dae8e84b4b44902347c60cf18b2ffd-1 -> /
    ↪opt/work/rtems/5
89 installing: sparc-rtems5-kernel-5-1 -> /opt/work/rtems/5
90 cleaning: expat-2.1.0-x86_64-freebsd11.1-1
91 cleaning: sparc-rtems5-binutils-2.31.1-x86_64-freebsd11.1-1
92 cleaning: sparc-rtems5-gcc-7.3.0-newlib-
    ↪d13c84eb07e35984bf7a974cd786a6cdac29e6b9-x86_64-freebsd11.1-1
93 cleaning: sparc-rtems5-gdb-8.0.1-x86_64-freebsd11.1-1
94 cleaning: rtems-tools-d343f830f4dae8e84b4b44902347c60cf18b2ffd-1
95 cleaning: sparc-rtems5-kernel-5-1
96 Build Sizes: usage: 3.661GB total: 2.412GB (sources: 1.472GB, patches:
    ↪6.630MB, installed 955.801MB)
97 Build Set: Time 0:20:56.188572

```

Author: Trac Migrate 2018-09-27T21:37:41.000Z

- **Resolution** set to ~"fixed"

- **Status** changed from *assigned* to *closed*

In [changeset:"38fd56c8a896a52bcab4f8921f67c483e36cf728/rtems-source-builder" 38fd56c/rtems-source-builder]:

```

1 sb: Monitor the build disk usage. Report the usage, total and various
  ↪ sizes
2
3 - Track the size of a build of a package in a build set to determine the
4 maximum amount of disk space used. This can be used as a guide to
5 documenting how much space a user needs to set aside to build a specific
6 set of tools.
7
8 - The `%clean` stage of a build is now split into a separate script.
9 I do not think this is an issue because I could not find any `%clean`
10 sections in any build configs we have. In time support for the
11 `%clean` section will be removed, the package builder cleans up.
12
13 Closes #3516

```

Author: Trac Migrate 2018-09-27T22:18:50.000Z

In [changeset:"079f95a91b2193a5e23bbd0338d41a2137b1dd9b/rtems-source-builder" 079f95a/rtems-source-builder]:

```

1 sb: Add build sizes to the email report.
2
3 - Include build sizes in the email report.
4
5 Updates #3516

```

4.2.1.480 3517 - RSB Ubuntu Host Requirements Missing Some

Id	3517
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-09-13T18:27:17.000Z
Updated	2018-09-25T19:23:16.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3517
Merges	0

Add libncurses5-dev and zlib1g-dev to Ubuntu apt-get instructions

Also bison and flex seemed to be missing per one of the persons trying it.

Author: Joel Sherrill 2018-09-13T18:38:10.000Z

- **Description** changed

```

1 Add libncurses5-dev and zlib1g-dev to Ubuntu apt-get instructions
2 +
3 + Also bison and flex seemed to be missing per one of the persons.
  ↳ trying it.

```

Author: Trac Migrate 2018-09-25T19:23:16.000Z

- **Owner** set to Joel Sherrill <joel@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"86baa5d3956c963a7bf0ecc72b5119e384f979cd/rtems-docs" 86baa5d/rtems-docs]:

```

1 rsb/hosts.rst: Add more packages needed on Ubuntu
2
3 Closes #3517.

```

4.2.1.481 3518 - RSB MacOS Nits

Id	3518
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Chris Johns
Created	2018-09-13T18:37:28.000Z
Updated	2018-09-25T18:45:01.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3518
Merges	0

The MacOS section of the RSB manual has some minor things that need to be fixed:

- says Serria when it should be Sierra (I think).
- has +sb-check+ which indicates a formatting error

Please review as a Mac user and make sure that's it. :)

Author: Trac Migrate 2018-09-25T18:45:01.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"11b5e9bef0ee90402d3912fef018702a713f21b1/rtems-docs" 11b5e9b/rtems-docs]:


```

1 RSB: Fix MacOS typos
2
3 Close #3518.

```

4.2.1.482 3523 - Add FEC network interface driver for TQM8XX

Id	3523
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-09-20T12:09:59.000Z
Updated	2018-09-21T08:39:45.000Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3523
Merges	0

Original author: sebastian.huber

Import legacy network driver and port it to libbsd.

Author: Trac Migrate 2018-09-21T08:39:14.000Z

Original author: sebastian.huber

In [changeset:"860d833e050cc75003c6822dbcb5d4dd58ce327a/rtems-libbsd" 860d833/rtems-libbsd]:

```

1 if_ffec_mpc8xx: Import legacy driver from RTEMS
2
3 Imported from RTEMS commit 1fe1b820de02c274c2b2b3431340152734ee9fb6
4 (2018-09-12).
5
6 Update #3523.

```

Author: Trac Migrate 2018-09-21T08:39:21.000Z

Original author: sebastian.huber

In [changeset:"457b4fc92766ff9030b3a8b50037af35bb2b3a13/rtems-libbsd" 457b4fc/rtems-libbsd]:

```

1 if_ffec_mpc8xx: Port driver to libbsd
2
3 Update #3523.

```

Author: Trac Migrate 2018-09-21T08:39:29.000Z

Original author: sebastian.huber

In [changeset:"d101ed8614285b48cd83df5a003af0ed7236f37e/rtems-libbsd"
d101ed8/rtems-libbsd]:

```
1 if_ffec_mpc8xx: New MDIO driver support
2
3 Update #3523.
```

Author: Trac Migrate 2018-09-21T08:39:37.000Z

Original author: sebastian.huber

In [changeset:"1b70957bd12d043f9d6632efb6c98f7c42aa9cbf/rtems-libbsd"
1b70957/rtems-libbsd]:

```
1 if_ffec_mpc8xx: Use M_NOWAIT for incoming frames
2
3 Update #3523.
```

Author: Trac Migrate 2018-09-21T08:39:45.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"610349693dd31d8b0efd33776516b7187cc5cda2/rtems-libbsd"
6103496/rtems-libbsd]:

```
1 if_ffec_mpc8xx: Fix incoming data invalidation
2
3 With a write-back cache dirty cache lines may be evicted which could
4 overwrite new data.
5
6 Close #3523.
```

4.2.1.483 3522 - Update mDNSResponder to Apple version v878.30.4

Id	3522
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-09-19T12:35:55.000Z
Updated	2018-09-20T09:29:08.000Z
Milestone	5.1
Labels	libbsd, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3522
Merges	0

Original author: sebastian.huber

Download

mDNSResponder-561.1.1.tar.gz mDNSResponder-567.tar.gz mDNSResponder-576.30.4.tar.gz
 mDNSResponder-625.41.2.tar.gz mDNSResponder-765.1.2.tar.gz mDNSResponder-
 765.20.4.tar.gz mDNSResponder-765.30.11.tar.gz mDNSResponder-765.50.9.tar.gz
 mDNSResponder-878.1.1.tar.gz mDNSResponder-878.20.3.tar.gz mDNSResponder-
 878.30.4.tar.gz

from

<https://opensource.apple.com/tarballs/mDNSResponder/>

Merge each update into libbsd/mDNSResponder.

Author: Trac Migrate 2018-09-20T09:27:30.000Z

Original author: sebastian.huber

In [changeset:"152d81f17810116c9007d6d200ed5d93534c1a18/rtems-libbsd"
 152d81f/rtems-libbsd]:

```
1 mDNSResponder: Increase stack size
2
3 The current stack size was insufficient on a test run of the foobarclient
4 test program.
5
6 Update #3522.
```

Author: Trac Migrate 2018-09-20T09:27:38.000Z

Original author: sebastian.huber

In [changeset:"111789e4af32d798f894c8449ba787c7308de127/rtems-libbsd"
 111789e/rtems-libbsd]:

```
1 mDNSResponder: Update to v561.1.1
2
3 The sources can be obtained via:
4
5 https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-561.1.
6 ↪1.tar.gz
7 Update #3522.
```

Author: Trac Migrate 2018-09-20T09:27:46.000Z

Original author: sebastian.huber

In [changeset:"e36ca101817ed47e788f1f2801190718736e834e/rtems-libbsd"
 e36ca10/rtems-libbsd]:

```
1 mDNSResponder: Update to v567
2
3 The sources can be obtained via:
4
5 https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-567.
6 ↪tar.gz
7 Update #3522.
```

Author: Trac Migrate 2018-09-20T09:27:54.000Z

Original author: sebastian.huber

In [changeset:"49ebc73e1db87793fe536480739cdd31587d554d/rtems-libbsd"
49ebc73/rtems-libbsd]:

```
1 mDNSResponder: Update to v576.30.4
2
3 The sources can be obtained via:
4
5 https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-576.
6 ↪30.4.tar.gz
7 Update #3522.
```

Author: Trac Migrate 2018-09-20T09:28:03.000Z

Original author: sebastian.huber

In [changeset:"f761b290f135957f47e1c9af71b4a81c76c32b48/rtems-libbsd"
f761b29/rtems-libbsd]:

```
1 mDNSResponder: Update to v625.41.2
2
3 The sources can be obtained via:
4
5 https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-625.
6 ↪41.2.tar.gz
7 Update #3522.
```

Author: Trac Migrate 2018-09-20T09:28:16.000Z

Original author: sebastian.huber

In [changeset:"f01edf10244ccd53e098abdc1773c1aa0e4c5f8d/rtems-libbsd"
f01edf1/rtems-libbsd]:

```
1 mDNSResponder: Update to v765.1.2
2
3 The sources can be obtained via:
4
5 https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-765.1.
6 ↪2.tar.gz
7
8 Move mDNS_StartResolveService() and mDNS_StopResolveService() to an
9 RTEMS-specific file (rtemsbsd/mdns/mDNSResolveService.c) using the
10 v576.30.4 implementation. Apple removed these functions without
11 explanation.
12 Update #3522.
```

Author: Trac Migrate 2018-09-20T09:28:23.000Z

Original author: sebastian.huber

In [changeset:"fc605b34255e1bacf6126fcd87e56fcd8b69ceba/rtems-libbsd" fc605b3/rtems-libbsd]:

```
1 mDNSResponder: Update to v765.20.4
2
3 The sources can be obtained via:
4
5 https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-765.
6 ↪20.4.tar.gz
7
8 Update #3522.
```

Author: Trac Migrate 2018-09-20T09:28:31.000Z

Original author: sebastian.huber

In [changeset:"7d33d36d73d2e902b107fb597e84e44ab11274a9/rtems-libbsd" 7d33d36/rtems-libbsd]:

```
1 mDNSResponder: Update to v765.30.11
2
3 The sources can be obtained via:
4
5 https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-765.
6 ↪30.11.tar.gz
7
8 Update #3522.
```

Author: Trac Migrate 2018-09-20T09:28:40.000Z

Original author: sebastian.huber

In [changeset:"a81495004c196cbbf5d1f918eb1510dd325c8283/rtems-libbsd"
a814950/rtems-libbsd]:

```
1 mDNSResponder: Update to v765.50.9
2
3 The sources can be obtained via:
4
5 https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-765.
6 ↪50.9.tar.gz
7 Update #3522.
```

Author: Trac Migrate 2018-09-20T09:28:52.000Z

Original author: sebastian.huber

In [changeset:"4c086a244624bf36865edcfa4309c333d7d7200d/rtems-libbsd"
4c086a2/rtems-libbsd]:

```
1 mDNSResponder: Update to v878.1.1
2
3 The sources can be obtained via:
4
5 https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-878.1.
6 ↪1.tar.gz
7 Update #3522.
```

Author: Trac Migrate 2018-09-20T09:29:00.000Z

Original author: sebastian.huber

In [changeset:"1e55d8204c9ef3b2fd59865d7d0082cac5238bd4/rtems-libbsd"
1e55d820/rtems-libbsd]:

```
1 mDNSResponder: Update to v878.20.3
2
3 The sources can be obtained via:
4
5 https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-878.
6 ↪20.3.tar.gz
7 Update #3522.
```

Author: Trac Migrate 2018-09-20T09:29:08.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”272360946778648e9090941ad1aa43b60d5031a3/rtems-libbsd”
2723609/rtems-libbsd]:

```

1 mDNSResponder: Update to v878.30.4
2
3 The sources can be obtained via:
4
5 https://opensource.apple.com/tarballs/mDNSResponder/mDNSResponder-878.
6 ↪30.4.tar.gz
7
8 Close #3522.
```

4.2.1.484 3307 - PowerPC linkcmds.base missing wildcards on some sections

Id	3307
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2018-02-16T17:21:14.000Z
Updated	2018-09-17T11:47:40.000Z
Milestone	5.1
Labels	arch:powerpc, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3307
Merges	0

Some sections were missing sections. Wildcards needed to be added.

Author: Joel Sherrill 2018-02-16T17:21:29.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2018-02-19T19:12:21.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”40c623a883da5dd80e4599cf4cd14097834706bd/rtems”
40c623a8/rtems]:

```

1 powerpc/shared/startup/linkcmds.base: Add wildcards on some sections
2
3 Closes #3307.
```

Author: Trac Migrate 2018-03-07T09:48:06.000Z

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

I reverted [40c623a8/rtems] and built the qorik_e6500_32 with the -fPIC option. I got no linker failures in the test suite.

We should investigate what sections are not recognized before we add dangerous *.x wildcards.

See also [1fcdd639ee38a990e629fdaa670eeda9faae9beb/rtems].

Author: Trac Migrate 2018-05-18T08:45:56.000Z

In [changeset:"7bf072bbb88e913624c4609afa4f621d225889c3/rtems" 7bf072b/rtems]:

```

1 bsp/powerpc: Remove wildcards in linkcmds.base
2
3 This reverts commit 40c623a883da5dd80e4599cf4cd14097834706bd.
4
5 The use of postfix wildcards, e.g. of the form "*.x" is dangerous since
6 it circumvents the standard matching rules for sections.
7
8 Unknown input sections should be added explicitly to the desired output
9 section via "x.*" wildcards.
10
11 Update #3307.
```

Author: Trac Migrate 2018-09-17T11:47:24.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

Is probably fixed.

4.2.1.485 3219 - Zynq BSP missing linker option `-gc-sections`

Id	3219
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2017-11-07T16:45:20.000Z
Updated	2018-09-17T11:46:13.000Z
Milestone	5.1
Labels	bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3219
Merges	0

This Zynq BSP is missing this option.

Author: Chris Johns 2017-11-07T16:45:32.000Z

- **Status** changed from *assigned* to *accepted*

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Trac Migrate 2018-09-17T11:46:13.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

This BSP has this option since [5460722d8d17fb6dc34bfca217b88369a8094260/rtems]. This happened before the ticket was opened.

4.2.1.486 3432 - Remove Simple SMP Priority Scheduler

Id	3432
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-05-23T19:10:36.000Z
Updated	2018-09-17T11:34:20.000Z
Milestone	5.1
Labels	priority::normal, resolution::wontfix, rtems::score, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3432
Merges	0

This scheduler was the first SMP scheduler added. It was created to have an easy SMP scheduler to debug. This was especially important when all of the SMP modifications and support were new. A Simple Scheduler has a use case as a low resource alternative for small uniprocessor systems. But the SMP variant just doesn't seem to have a good use case. If you have an SMP system, the application is almost certain to have enough resources where the more complicated data structures used by the other schedulers wouldn't be a burden. The Deterministic Priority Scheduler uses ~3K for FIFO with 256 priorities. This should not be an issue for an SMP system.

This ticket is a proposal to remove this as no longer having a use case.

Author: Trac Migrate 2018-05-25T07:59:43.000Z

Please don't remove this scheduler. I may change it a bit to support also the simple one-to-one and one-to-all thread processor affinities. It uses very simple data structures which yield a small object code size. Even big SMP machines may have a small L1 cache.

Author: Trac Migrate 2018-09-17T11:34:20.000Z

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

This scheduler implementation should not be removed. It is useful in clustered scheduler scenarios.

4.2.1.487 3176 - __getreent in libc.a and generated by confdefs.h

Id	3176
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2017-10-10T14:40:33.000Z
Updated	2018-09-17T11:10:42.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::newlib, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3176
Merges	0

Some applications are getting duplicate symbol definitions for `__getreent()`. One of the examples-v2 programs is doing this. It is because there are two bodies for this method – one from `confdefs.h` and another from `newlib`.

<https://sourceware.org/ml/newlib/2017/msg01020.html> addresses the issues and needs to be incorporated by the RSB.

<https://sourceware.org/ml/newlib/2017/msg01019.html> is a cleanup that was spotted at the same time. It can be picked up by a newlib snapshot.

Author: Joel Sherrill 2017-10-11T10:31:43.000Z

- **Milestone** set to %”4.12.0”

This needs to be fixed for 4.12. I haven’t checked if this is also needed for 4.11. If 4.11 confdefs.h defines `__getreent()`, then it has the bug also.

Author: Joel Sherrill 2017-10-12T00:29:05.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

Author: Trac Migrate 2018-09-17T11:10:42.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

This is fixed at least since [d7fd32078a45c1fc7ceed58528e0c6a193383104/rtems-source-builder].

4.2.1.488 2624 - Fix the year 2038 problem

Id	2624
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-03-07T06:39:24.000Z
Updated	2018-09-17T10:15:05.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool::newlib, version::4.10, version::4.5
Link	https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/2624
Merges	0

Original author: sebastian.huber

RTEMS uses currently a signed 32-bit integer for `time_t` on Newlib. Thus, it is affected by the year 2038 problem. There are only 22 years left and this time span is within the realistic time frame of some RTEMS applications that are developed now.

The `time_t` should be changed to `int64_t` in Newlib. To make sure that all integer operations are carried out properly I suggest to temporarily do this

```

{{{#include <sys/_stdint.h>
typedef struct { __int64_t _val; } time_t;
static inline time_t _time_add(time_t a, time_t b) { time_t r = { a._val + b._val }; return r; }
static inline time_t _time_sub(time_t a, time_t b) { time_t r = { a._val - b._val }; return r; }
static inline time_t _time_mul(time_t a, time_t b) { time_t r = { a._val * b._val }; return r; }
static inline time_t _time_div(time_t a, time_t b) { time_t r = { a._val / b._val }; return r; } }}}

```

Make sure that RTEMS and Newlib build with this. Add test cases to highlight the `time_t` integer limits.

Author: Trac Migrate 2016-03-07T06:59:51.000Z

Original author: sebastian.huber

`_time_t` 's required to be an integer or floating-point type by POSIX: <http://pubs.opengroup.org/onlinepubs/009696699/basedefs/sys/types.h.html>

Author: Trac Migrate 2016-03-07T07:02:49.000Z

Original author: sebastian.huber

Yes, this is why I wrote temporarily. Once we are reasonably sure that all the integer operations are all right, we use

```
1 typedef __int64_t time_t
```

I am not sure if we should keep the inline functions for clarity.

Author: Chris Johns 2016-03-07T23:01:46.000Z

Original author: sebastian.huber

What do you mean by “all integer operations are carried out properly”? How do you decide everything is done properly?

Is this specific to RTEMS and 3rd party code such as gcc and newlib RTEMS depends on?

What happens to code such as `cpukit/ftpd/ftpd.c:1193` or `cpukit/libfs/src/jffs2/src/fs-rtems.c:1053`? The JFFS has `time_t` in its struct `iattr` and I am not sure if this is embedded in the file system in the flash. The RFS has a special type for time in the inode on disk.

Author: Joel Sherrill 2016-03-07T23:11:34.000Z

Original author: sebastian.huber

I don't see the value of adding helper methods. Much of the code impacted would have to be altered to use them. Internal code using 64-bit `time_t` should just work. The issue is where there are interfaces to other representations or storage systems.

Analyse the cases Chris mentions, ask on newlib if there are any known places to be concerned about, and just try it.

Adding use of non-standard helper functions on a standard type is just extra work.

Author: Trac Migrate 2016-03-08T16:58:06.000Z

Original author: sebastian.huber

I didn't assign the ticket to me because I don't work actively on this topic. Its a ticket to collect some ideas.

I just want to point out that its not as simple as "typedef __uint64_t time_t".

Joel, how would you ensure that you don't accidentally use maybe a long for `time_t` arithmetic in Newlib and RTEMS?

Author: Trac Migrate 2017-02-15T14:20:42.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"Indefinite"
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2018-09-17T10:15:05.000Z

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"5.1"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*
- **Version** changed from ~"4.10" to ~"4.5"

Fixed by [#3111](#).

4.2.1.489 3513 - Convert tqm8xx console driver to new Termios API

Id	3513
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-09-12T09:47:05.000Z
Updated	2018-09-17T07:00:16.000Z
Milestone	5.1
Labels	arch:powerpc, priority::normal, resolution::fixed, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3513
Merges	0

Original author: sebastian.huber

Author: Trac Migrate 2018-09-17T06:59:25.000Z

Original author: sebastian.huber

In [changeset:"7b93d8570eb1bcc2480e106653d6c92788da8544/rtems" 7b93d857/rtems]:

```
1 bsp/tqm8xx: Use IRQ extensions API
2
3 Update #3513.
```

Author: Trac Migrate 2018-09-17T06:59:35.000Z

Original author: sebastian.huber

In [changeset:"53fb03fe3dc023e1b2d7d6d7f935cae811ff6471/rtems" 53fb03fe/rtems]:

```
1 bsp/tqm8xx: Move rxBuf to channel descriptor
2
3 Update #3513.
```

Author: Trac Migrate 2018-09-17T06:59:45.000Z

Original author: sebastian.huber

In [changeset:"68920e7f92dbc2723d9679007e33bf3a72801c51/rtems" 68920e7f/rtems]:

```
1 bsp/tqm8xx: Move DMA support to channel descriptor
2
3 Update #3513.
```

Author: Trac Migrate 2018-09-17T06:59:56.000Z

Original author: sebastian.huber

In [changeset:"d22147e07279c35d3f7610198ad3ebcdce01126b/rtems"
d22147e/rtems]:

```
1 bsp/tqm8xx: Convert console to new Termios API
2
3 Update #3513.
```

Author: Trac Migrate 2018-09-17T07:00:06.000Z

Original author: sebastian.huber

In [changeset:"688e101a654f9314c09fab2319b2d0742e0e2313/rtems"
688e101a/rtems]:

```
1 bsp/tqm8xx: Fix polled vs. interrupt output
2
3 Update #3513.
```

Author: Trac Migrate 2018-09-17T07:00:16.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"62cb39d7fe69c0d10a4318040bd0983aa97e6436/rtems"
62cb39d7/rtems]:

```
1 bsp/tqm8xx: Remove unused files
2
3 Close #3513.
```

4.2.1.490 3519 - RSB does not strictly check args

Id	3519
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2018-09-15T07:25:12.000Z
Updated	2018-09-15T07:44:05.000Z
Milestone	5.1
Labels	priority::high, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3519
Merges	0

The RSB loose argument parsing in the RSB needs to change. The RSB needs to strictly check arguments to avoid simple user errors.

Author: Trac Migrate 2018-09-15T07:44:05.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"a16bfe19effa7929c09d5bc85f3ec806fce3b0bb/rtems-source-builder" a16bfe1/rtems-source-builder]:

```

1 sb: Raise an error if an option is not registered and unknown.
2
3 Close #3519.
```

4.2.1.491 2576 - arm/lpc176x: linker script update (add KEEP() sections)

Id	2576
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2016-02-06T16:24:07.000Z
Updated	2018-09-14T19:03:46.000Z
Milestone	5.1
Labels	arch:arm, bsp, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2576
Merges	0

This BSP's linker script does not include KEEP() directives and thus cannot have per-function and per-data element section support enabled.

The preferred solution is to convert the BSP to use a shared base linker script. The acceptable solution is to add the proper KEEP directives to the existing linker script(s).

Shared linker scripts for the arm, m68k, and sparc have the proper KEEP sections and can serve as examples.

Author: Trac Migrate 2016-02-06T16:26:47.000Z

In changeset e41d8ce5a764d57952102009ff1c5e5ace69a1c8:

arm/.../lpc1768_embed.cfg: Disable per function sections updates
#2576.

Author: Trac Migrate 2016-03-17T20:12:25.000Z

I looked into the linkerscript and it uses the shared for all arm's, which uses KEEP directives. Then I tested this BSP enabling the flags, and samples work ok:

hello.exe : section size addr .start 772 0 .text 79136 776 .rodata 4152 79936 .vector 1256 268435456 .data 1656 268436712 .bss 5656 268438368

With flags: hello.exe : section size addr .start 772 0 .text 61424 776 .rodata 3512 62224 .vector 1256 268435456 .data 1604 268436712 .bss 5592 268438336

And the same for the other samples.

Author: Trac Migrate 2016-03-22T14:51:04.000Z

I suggest to apply the linker flags and deprecate this bug

Author: Trac Migrate 2016-03-22T15:10:51.000Z

- **Owner** set to Joel Sherrill <joel@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 1a738edb39d462b9d99be4537782934f5ec56ca5:

lpc1768_mbed.cfg: Turn on per function sections Closes #2576.

Author: Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.492 3508 - Add support for thread to processor pinning

Id	3508
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-08-29T12:24:14.000Z
Updated	2018-09-10T09:38:15.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3508
Merges	0

Original author: sebastian.huber

FreeBSD started to use lock-free data structures (Concurrency Kit) with epoch based reclamation (EBR) in May 2018. The goal of this synchronization approach is to avoid atomic read-modify-write operations in the fast path. The algorithms need highly efficient access to per-processor data. This gives raise to add a new feature to RTEMS: thread to processor pinning. Thread pinning is orthogonal to thread processor affinity and overrules the processor affinity settings of a thread. It is intended for temporary use in short critical sections which allow preemption.

Author: Trac Migrate 2018-09-10T09:37:18.000Z

Original author: sebastian.huber

In [changeset:"d8bc0730f791e85d46506d689ff3e7d2c6a199a7/rtems" d8bc0730/rtems]:

```

1 score: Modify _Scheduler_Unblock()
2
3 In SMP configurations, obtain the scheduler node for the block and
4 unblock operations through the same way via
5 Thread_Control::Scheduler::Scheduler_node. This symmetry is important
6 in a follow up patch which introduces thread pinning.
7
8 Update #3508.
```

Author: Trac Migrate 2018-09-10T09:37:29.000Z

Original author: sebastian.huber

In [changeset:"709796209c88e6749320b3096df57f369c2d62be/rtems" 7097962/rtems]:

```

1 score: Add thread pin/unpin support
2
3 Add support to temporarily pin a thread to its current processor. This
4 may be used to access per-processor data structures in critical sections
5 with enabled thread dispatching, e.g. a pinned thread is allowed to
6 block.
7
8 Update #3508.

```

Author: Trac Migrate 2018-09-10T09:38:15.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"7c5803696154416f1732d8ab0031ec2a39fb4de0/rtems-docs" 7c58036/rtems-docs]:

```

1 c-user: Mention thread pinning
2
3 Close #3508.

```

4.2.1.493 3435 - Add test case for CONFIGURE_BSP_PREREQUISITE_DRIVERS configuration option

Id	3435
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-05-25T08:42:49.000Z
Updated	2018-09-06T05:12:56.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, resolution::wontfix, rtems::config, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3435
Merges	0

Original author: sebastian.huber

This configuration option is untested

Author: Joel Sherrill 2018-05-25T15:09:24.000Z

Original author: sebastian.huber

- **Resolution** set to ~"wontfix"

- **Status** changed from *assigned* to *closed*

It is used in deployed use code. Off the top of my head, it was used on a custom erc32 board to initialize a VMEBus and associated hardware before any other drivers were initialized. This was very specifically needed to extend – not modify – an existing BSP.

If you want a test added, great. But this has a very legitimate use case. It should not be deleted.

Author: Trac Migrate 2018-05-28T05:01:33.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 - This configuration option is unused.
2 ?                               ^ -
3
4 + This configuration option is untested
5 ?                               ^^ +

```

- **Resolution** ~"wontfix" deleted
- **Status** changed from *closed* to *reopened*
- **Summary** changed from *Remove CONFIGURE_BSP_PREREQUISITE_DRIVERS configuration option* to *Add test case for CONFIGURE_BSP_PREREQUISITE_DRIVERS configuration option*

Author: Trac Migrate 2018-09-06T05:12:56.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

In [changeset:"0e907232e04f223059b4cecc1cc4b25e13f09233/rtems" 0e907232/rtems]:

```

1 sptests/spconfig01: New test
2
3 Close #3435.

```

4.2.1.494 3504 - Warning and formatting in bsp/powerpc/mpc55xxevb/dev/dspi.c

Id	3504
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-08-22T17:01:54.000Z
Updated	2018-09-06T05:05:21.000Z
Milestone	5.1
Labels	arch:powerpc, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3504
Merges	0

This is a printf format warning. Also the file is formatted with tabs and not two spaces.

```

In file included from ../../../../rtems/c/src/lib/libbsp/powerpc/mpc55xxevb/../../bsp/powerpc/mpc55xxevb/d
../../../../rtems/c/src/lib/libbsp/powerpc/mpc55xxevb/../../bsp/powerpc/mpc55xxevb/d
In function 'mpc55xx_dspi_edma_done':
/home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/status-checks.h:88:23: warning: format '%x'
expects argument of type 'unsigned int', but argument 3 has type 'uint32_t {aka long unsigned
int}' [-Wformat=] RTEMS_SYSLOG_PRINT( "%s: " fmt, __func__, ##__VA_ARGS__ )
^
/home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/status-
checks.h:76:15: note: in definition of macro 'RTEMS_SYSLOG_PRINT'
printf(      fmt,      ##__VA_ARGS__ )      ^~~
/home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/status-checks.h:109:3: note: in expansion of macro
'RTEMS_SYSLOG' RTEMS_SYSLOG( "Error: " fmt, ##__VA_ARGS__ ) ^~~~~~
../../../../rtems/c/src/lib/libbsp/powerpc/mpc55xxevb/../../bsp/powerpc/mpc55xxevb/d
note: in expansion of macro 'RTEMS_SYSLOG_ERROR' RTEMS_SYSLOG_ERROR(
"eDMA error: 0x%08xn", error_status);      ^~~~~~
../../../../rtems/c/src/lib/libbsp/powerpc/mpc55xxevb/../../bsp/powerpc/mpc55xxevb/d
note: format string is defined here RTEMS_SYSLOG_ERROR( "eDMA error: 0x%08xn", er-
ror status); ~~~^ %08lx

```

Author: Joel Sherrill 2018-08-22T17:02:09.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2018-09-06T05:05:21.000Z

- **Resolution** set to $\sim$ "fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"9a21fc73834bf7300627c74200f451bcc1420a98/rtems"
9a21fc7/rtems]:

```

1 bsp/mpc55xxevb: Fix format warning
2
3 Close #3504.

```

4.2.1.495 3510 - ATA driver uses deprecated rtems_blkdev services

Id	3510
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-08-31T13:43:17.000Z
Updated	2018-09-06T05:05:10.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3510
Merges	0

This shows up building fileio on the following BSPs.

i386/pc386 i386/pc486 i386/pc586 i386/pc586-sse i386/pc686 i386/pcp4 powerpc/brs5l
powerpc/brs6l powerpc/dp2 powerpc/icecube powerpc/pm520_cr825 powerpc/pm520_ze30

Author: Joel Sherrill 2018-08-31T13:43:43.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2018-09-06T05:05:10.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"ccdce9d8f6c38748747a1346d3a42683fa5c9328/rtems"
ccdce9d8/rtems]:

```

1 libchip/ata: Fix ATA_DRIVER_TABLE_ENTRY
2
3 Drop unused and deprecated functions from the ATA_DRIVER_TABLE_ENTRY.
4
5 Update #3358.
6 Close #3510.

```

4.2.1.496 3511 - int/pointer size warnings in powerpc-qoriq_e6500_64

Id	3511
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-09-04T22:57:18.000Z
Updated	2018-09-05T04:56:38.000Z
Milestone	5.1
Labels	arch:powerpc, priority::normal, resolution::duplicate, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3511
Merges	0

These all look suspiciously like real issues:

```
$ grep warning log/powerpc-qoriq_e6500_64.log ../../../../../../rtems/c/src/lib/libbsp/powerpc/qoriq/../../
warning: passing argument 1 of 'qoriq_initialize_exceptions' makes pointer from integer
without a cast [-Wint-conversion] ../../../../../../rtems/c/src/../../../../cpukit/libmisc/rtems-
fdt/rtems-fdt-shell.c:57:27: warning: cast to pointer from integer of different size
[-Wint-to-pointer-cast] ../../../../../../rtems/c/src/../../../../cpukit/libmisc/rtems-fdt/rtems-fdt-
shell.c:64:27: warning: cast to pointer from integer of different size [-Wint-to-pointer-
cast] ../../../../../../rtems/c/src/../../../../cpukit/libmisc/rtems-fdt/rtems-fdt-shell.c:488:11:
warning: format '%u' expects argument of type 'unsigned int', but argument 5
has type 'long int' [-Wformat=] ../../../../../../rtems/c/src/../../../../cpukit/libmisc/rtems-
fdt/rtems-fdt-shell.c:536:13: warning: format '%u' expects argument of
type 'unsigned int', but argument 2 has type 'long int' [-Wformat=]
../../../../../../../../rtems/c/src/lib/libbsp/powerpc/qoriq/../../../../../../../../bsps/powerpc/shared/exceptions/pp
warning: cast to pointer from integer of different size [-Wint-to-pointer-cast]
../../../../../../../../rtems/c/src/lib/libbsp/powerpc/qoriq/../../../../../../../../bsps/powerpc/shared/exceptions/pp
warning: cast from pointer to integer of different size [-Wpointer-to-int-cast]
```

Author: Joel Sherrill 2018-09-04T22:57:32.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2018-09-05T04:56:38.000Z

- **Resolution** set to ~"duplicate"
- **Status** changed from *assigned* to *closed*

Duplicate of [#3156](#).

4.2.1.497 3491 - Align mprotect() prototype with POSIX

Id	3491
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-08-08T09:16:59.000Z
Updated	2018-08-28T05:13:25.000Z
Milestone	5.1
Labels	api::posix, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3491
Merges	0

Original author: sebastian.huber

The correct prototype is:

```
1 int mprotect(void *, size_t, int);
```

Author: Trac Migrate 2018-08-10T05:15:40.000Z

Original author: sebastian.huber

In [changeset:"aac36d153aa88d666a2a6a7a4a49520e3aec7c17/rtems" aac36d15/rtems]:

```
1 posix: Add configure check for mprotect()
2
3 Update #3491.
```

Author: Trac Migrate 2018-08-28T05:13:25.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"02302026ccc257ece411d955836a3ac9b8afb9dc/rtems-source-builder" 0230202/rtems-source-builder]:

```
1 5: Update Newlib
2
3 Pick up POSIX header file changes for an upcoming FreeBSD baseline
4 update in libbsd.
5
6 Update #3472.
7 Close #3491.
```


4.2.1.498 3478 - RISCv BSP Tester Cleanup Needed

Id	3478
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-07-25T23:30:21.000Z
Updated	2018-08-24T05:14:07.000Z
Milestone	5.1
Labels	arch:riscv, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3478
Merges	0

rtems-tools currently has the following bsp testing configurations:

```

1 $ find . -name "*riscv*ini"
2 ./tester/rtems/rtems-bsps-riscv64.ini
3 ./tester/rtems/testing/bsps/riscv64_generic.ini
4 ./tester/rtems/testing/bsps/riscv_generic.ini
5 ./tester/rtems/rtems-bsps-riscv32.ini

```

rtems-bsps.ini does not include the riscv.

tester/rtems/rtems-bsps-tiers.ini does not list the riscv

Author: Joel Sherrill 2018-07-25T23:30:37.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2018-08-24T05:14:07.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Fixed by [#3433](#).

4.2.1.499 3109 - Add RISC-V support

Id	3109
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2017-08-23T05:20:45.000Z
Updated	2018-08-24T05:13:10.000Z
Milestone	5.1
Labels	arch:riscv, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3109
Merges	0

Original author: sebastian.huber

Add RISC-V 32-bit tool chain to RSB consisting of Binutils, GCC, Newlib and GDB. Add CPU port and a basic simulator BSP.

Author: Trac Migrate 2017-08-23T05:21:49.000Z

Original author: sebastian.huber

In [changeset:"e960835cb745857d4bbaea29f97a5b44cb530d49/rtems-source-builder" e960835/rtems-source-builder]:

```

1 4.12: Add riscv32 to all
2
3 Update #3109.
```

Author: Trac Migrate 2017-10-25T23:20:39.000Z

Original author: sebastian.huber

- **Owner** set to heshamelmatary
- **Status** changed from *new* to *accepted*

Author: Trac Migrate 2017-10-26T05:21:42.000Z

Original author: sebastian.huber

- **Summary** changed from *Add RISC-V 32-bit support* to *Add RISC-V support*

Account for 64-bit RISC-V

Author: Trac Migrate 2017-10-27T05:45:00.000Z

Original author: sebastian.huber

In [changeset:"5bd4aa6bb33872b0f0fb243e7fc2f0784e69ab81/rtems-source-builder" 5bd4aa6/rtems-source-builder]:

```
1 RSB - Add support for RISC-V RV64 (64-bit) toolchain v2
2
3 Update #3109
```

Author: Trac Migrate 2017-10-28T07:01:25.000Z

Original author: sebastian.huber

In [changeset:"e274bdf104876cb92f145e848c057250225f84a/rtems-source-builder" e274bdf/rtems-source-builder]:

```
1 RSB - RISC-V: Add scripts to build RISC-V's simulator
2
3 Update #3109
```

Author: Trac Migrate 2017-10-28T07:11:34.000Z

Original author: sebastian.huber

In [changeset:"35b9c0c84aa2a7d5495025ad485ea85658246107/rtems-tools" 35b9c0c/rtems-tools]:

```
1 Tester - RISC-V: Add spike simulator and scripts/bsp for riscv ports
2
3 Update #3109
```

Author: Trac Migrate 2017-10-28T07:42:52.000Z

Original author: sebastian.huber

In [changeset:"6d85e0514409aaed17711bd2bff04f1a0b0bbc83/rtems" 6d85e05/rtems]:

```
1 bsp: Add new riscv_generic bsp v3
2
3 * Only runs/tested on simulator/spike.
4 * Ticker, hello, capture work properly
5 * Tested via RTEMS Tester, Passed: 525/565 (92%)
6
7 Update #3109
```

Author: Trac Migrate 2017-10-28T12:07:52.000Z

Original author: sebastian.huber

In [changeset:"cf614eca60b5cb35b77f6556393a3c8bcabbb19d/rtems"cf614ec/rtems]:

```
1 riscv32: Add missing preinstall.am
2
3 Update #3109.
```

Author: Trac Migrate 2017-10-31T23:22:09.000Z

Original author: sebastian.huber

In [changeset:"8fa827cc83f40c831ace4a759d8c2f1280073ac6/rtems"8fa827c/rtems]:

```
1 bsp: Make riscv_generic work for both riscv32 and riscv64 - v2
2
3 Update #3109
```

Author: Trac Migrate 2018-01-04T06:19:47.000Z

Original author: sebastian.huber

In [changeset:"030ce684c418e00c46b242d58bfc59a57d57deb5/rtems"030ce68/rtems]:

```
1 tests: Fix canonical-target-name.m4
2
3 Update #3109.
```

Author: Trac Migrate 2018-08-24T05:13:10.000Z

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"5.1"
- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*
- **Version** set to ~"5"

Superseded by [#3433](#), [#3452](#), and [#3453](#).

4.2.1.500 3503 - PDF Documentation is missing an index

Id	3503
State	closed
Type	ISSUE
Author	Chris Johns
Assignee(s)	Chris Johns
Created	2018-08-21T01:15:54.000Z
Updated	2018-08-21T05:00:24.000Z
Milestone	5.1
Labels	priority::high, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3503
Merges	0

The PDF generated documents have an empty index.

Author: Chris Johns 2018-08-21T02:14:12.000Z

We cannot have a `genindex.rst` file, the documentation reserves this for a generated file. Removing the `genindex` entry from the TOC of a document results in the PDF having an index. Removing the `genindex` entry from the TOC removes the index from the HTML generated output.

The solution is to specialize the HTML template however the template processing in `common` and `common/waf.py` looks broken. The path in `common/conf.py` is a build path that is not present and the common templates are copied into each docs HTML build tree and the path in the file is relative to the top directory.

Author: Trac Migrate 2018-08-21T03:48:28.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"5ce8e43506184bd9d8bf072c3f50ad0378f81ee7/rtems-docs"5ce8e43/rtems-docs]:

```

1 build: Fix indexing so it works on HTML and PDF.
2
3 - Remove all genindex.rst files, these are generated and should not
4 exist in our source.
5 - Fix the HTML templates so the local specialisation works.
6 - Add a index link to the sidebar for HTML.
7
8 Note, there is no TOC entry for the index in the PDF output and I
9 cannot figure out how to add one.
10
11 Closes #3503

```

4.2.1.501 3452 - Update RISC-V tool chain to support standard 64-bit chips

Id	3452
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-06-13T08:42:32.000Z
Updated	2018-08-20T12:55:53.000Z
Milestone	5.1
Labels	arch:riscv, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3452
Merges	0

Original author: sebastian.huber

First step is to include this bug fix in Binutils:

https://sourceware.org/bugzilla/show_bug.cgi?id=23244

Second step is a multilib update. Third step is a merge of the riscv32 and riscv64 tool chains into a single riscv tool chain.

Author: Trac Migrate 2018-06-13T08:47:12.000Z

Original author: sebastian.huber

In [changeset:"9530518b4ad2430521aaf017648f40919e5e6e34/rtems-source-builder" 9530518/rtems-source-builder]:

```

1 Build only the Binutils
2
3 The Binutils and GDB share a repository. In order to build the Binutils
4 from a repository snapshot some components must be disabled.
5
6 Update #3452.
```

Author: Trac Migrate 2018-06-13T08:47:28.000Z

Original author: sebastian.huber

In [changeset:"f432e19a5402ed367c3c75011e564f7fe4ca7387/rtems-source-builder" f432e19/rtems-source-builder]:

```

1 5: Update RISC-V Binutils
2
3 This includes the following bug fix:
4
5 https://sourceware.org/bugzilla/show_bug.cgi?id=23244
```

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6
7 Update #3452.

Author: Trac Migrate 2018-06-20T06:36:21.000Z

Original author: sebastian.huber

In [changeset:"8ee4e8cd557c25fca59bb9751751ad4172530958/rtems-source-builder" 8ee4e8c/rtems-source-builder]:

1 5: Update RISC-V Binutils and GDB
2
3 This includes the following bug fix:
4
5 https://sourceware.org/bugzilla/show_bug.cgi?id=23305
6
7 Update #3452.

Author: Trac Migrate 2018-06-22T04:24:21.000Z

Original author: sebastian.huber

In [changeset:"4bd8de535bbede68c7b46ea88a1b8eed356c3897/rtems-source-builder" 4bd8de5/rtems-source-builder]:

1 5: Use GCC 8 snapshot **for** RISC-V
2
3 This picks up the new multilib **set for** RISC-V.
4
5 Update #3452.

Author: Trac Migrate 2018-07-24T07:06:52.000Z

Original author: sebastian.huber

In [changeset:"dc6b9405ac33ddc29fc8e306fa23db33ec3d6672/rtems-source-builder" dc6b940/rtems-source-builder]:

1 5: Update Newlib
2
3 Update RISC-V GCC to a GCC 9 branch commit.
4
5 Close #3342.
6 Close #3343.
7 Update #3452.

Author: Trac Migrate 2018-07-24T07:06:59.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d33c1519f2502db9ff6c9ce87ed9aba7d6c8467f/rtems-source-builder" d33c151/rtems-source-builder]:

```

1 5: Merge riscv32 and riscv64 into riscv
2
3 After several upstream updates in Binutils, GCC, Newlib, and GDB it is
4 now possible to use a common riscv tool chain for the 32-bit and 64-bit
5 RISC-V.
6
7 Update GDB to ce73f310150418a9a1625ab60a527d959096a9e2 Git commit.
8
9 Close #3452.
```

Author: Trac Migrate 2018-07-24T10:10:47.000Z

Original author: sebastian.huber

In [changeset:"2ef6dfe921bcd5d68c3dcd89ded67e5ed3b07741/rtems-source-builder" 2ef6dfe9/rtems-source-builder]:

```

1 5: Fix rtems-all due to recent RISC-V changes
2
3 Update #3452.
```

Author: Trac Migrate 2018-07-25T12:06:34.000Z

Original author: sebastian.huber

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

Another tool chain issue:

https://sourceware.org/bugzilla/show_bug.cgi?id=23451

Author: Trac Migrate 2018-07-26T07:08:20.000Z

Original author: sebastian.huber

In [changeset:"2cd6cefe0ec5d876240f5d378eb3f7162401f27b/rtems-source-builder" 2cd6cef/rtems-source-builder]:

```

1 5: Change riscv to riscv32
2
3 This is a temporary workaround for this bug:
```

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```

4
5 https://sourceware.org/bugzilla/show_bug.cgi?id=23451
6
7 It is not clear how this can be resolved upstream.
8
9 Update #3452.

```

Author: Trac Migrate 2018-07-30T08:10:59.000Z

Original author: sebastian.huber

In [changeset:"c40d1260e0d2fc7f938ade7313a846de387cd601/rtems-source-builder" c40d126/rtems-source-builder]:

```

1 5: Change riscv32 back to riscv
2
3 Update Binutils to include a bug fix for:
4
5 https://sourceware.org/bugzilla/show_bug.cgi?id=23451
6
7 Update #3452.

```

Author: Trac Migrate 2018-08-03T10:06:11.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

In [changeset:"8f742407bd41785aead054d11a91bb0924bbe36e/rtems-source-builder" 8f74240/rtems-source-builder]:

```

1 5: Update Newlib
2
3 It includes a fix for bug in the ctype support, some FreeBSD
4 compatibility changes in <sys/cdefs.h> for libbsd and a new
5 configuration option for all targets newlib/configure.host which is used
6 by the RISC-V port.
7
8 Close #3452.

```

Author: Trac Migrate 2018-08-20T12:55:53.000Z

Original author: sebastian.huber

In [changeset:"79c83cd097333ef31a9c34ce1c7d05d9d3df1b78/rtems-source-builder" 79c83cd/rtems-source-builder]:

```

1 5: Update Newlib for RISC-V
2
3 Use the latest Newlib to fix the GCC libgomp build (TLS support was not
4 detected due to broken crt0).
5
6 Update #3452.

```

4.2.1.502 3496 - Remove superfluous interrupt enable in _Thread_Dispatch_enable()

Id	3496
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-08-10T05:08:18.000Z
Updated	2018-08-20T06:37:24.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3496
Merges	0

Original author: sebastian.huber

The `_Thread_Dispatch_enable()` contains a superfluous interrupt enable. This bug had probably no effect since the interrupt enable is idempotent on all CPU ports.

```

1 RTEMS_INLINE_ROUTINE void _Thread_Dispatch_enable( Per_CPU_Control *cpu_self )
2 {
3   uint32_t disable_level = cpu_self->thread_dispatch_disable_level;
4
5   if ( disable_level == 1 ) {
6     ISR_Level level;
7
8     _ISR_Local_disable( level );
9
10    if (
11      cpu_self->dispatch_necessary
12      #if defined(RTEMS_SCORE_ROBUST_THREAD_DISPATCH)
13      || !_ISR_Is_enabled( level )
14      #endif
15    ) {
16      _Thread_Do_dispatch( cpu_self, level ); <-- This function enabled interrupts
17    } else {
18      cpu_self->thread_dispatch_disable_level = 0;
19      _Profiling_Thread_dispatch_enable( cpu_self, 0 );
20    }
21
22    _ISR_Local_enable( level ); <-- Here we enable it again

```

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```

23 } else {
24   _Assert( disable_level > 0 );
25   cpu_self->thread_dispatch_disable_level = disable_level - 1;
26 }
27 }

```

Author: Trac Migrate 2018-08-20T06:37:24.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d14f9349ead2cc64a685616e3c40a0c9ba04f9ea/rtems" d14f934/rtems]:

```

1 score: Fix ISR enable in _Thread_Dispatch_enable()
2
3 This bug had probably no effect since the interrupt enable is idempotent
4 on all CPU ports.
5
6 Close #3496.

```

4.2.1.503 3502 - PL111_LCD_CONTROL_LCD_BPP_16 Redefined

Id	3502
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-08-14T23:31:03.000Z
Updated	2018-08-20T06:36:58.000Z
Milestone	5.1
Labels	arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3502
Merges	0

The constant `PL111_LCD_CONTROL_LCD_BPP_16` is defined twice in the file `bsp/arm/include/bsp/arm-pl111-regs.h`:

```
define PL111_LCD_CONTROL_LCD_BPP_16 0x04U
```

```
define PL111_LCD_CONTROL_LCD_BPP_24 0x05U
```

```
define PL111_LCD_CONTROL_LCD_BPP_16 0x06U
```

```
define PL111_LCD_CONTROL_LCD_BPP_12 0x07U
```

Given the context, I am guessing the first one should be BPP_32 but since Sebastian added the file, I am assuming he has docs and can answer this question for sure.

Author: Joel Sherrill 2018-08-14T23:31:18.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Author: Trac Migrate 2018-08-20T06:36:58.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"2cd37161039bb66d072dfc67879f23df30d12290/rtems" 2cd3716/rtems]:

```
1 bsps/arm: Fix PL111 register define re-definition
2
3 Close #3502.
```

4.2.1.504 3499 - The "Index" chapter is empty

Id	3499
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-08-10T07:26:57.000Z
Updated	2018-08-20T06:27:38.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3499
Merges	0

Original author: JSchweikhardt

The "Index" chapter, <https://docs.rtems.org/branches/master/cpu-supplement/genindex.html> is empty.

This chapter should contain a usable and helpful index or not be generated at all.

Author: Trac Migrate 2018-08-10T07:36:55.000Z

Original author: JSchweikhardt

- **Milestone** set to %”5.1”
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*
- **Version** set to ~”5”

Due to the hierarchical structure of this document I think an index is not necessary. There is also probably nobody available to write one.

Author: Trac Migrate 2018-08-20T06:27:38.000Z

Original author: JSchweikhardt

- **Resolution** set to ~”fixed”
- **Status** changed from *accepted* to *closed*

In [changeset:”67195aad658d1090724cf365dd733195813e906f/rtems-docs”
67195aa/rtems-docs]:

```
1 cpu-supplement: Remove empty index
2
3 Due to the hierarchical structure an index is not absolutely necessary
4 and an empty index is not helpful. The document sources contain no
5 index directives.
6
7 Close #3499.
```

4.2.1.505 3498 - Command and Variable Index is empty

Id	3498
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-08-10T07:23:11.000Z
Updated	2018-08-20T06:27:25.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3498
Merges	0

Original author: JSchweikhardt

The Command and Variable Index, <https://docs.rtems.org/branches/master/cpu-supplement/command.html> does not contain any commands or variables.

If this chapter does not apply to RTEMS it should not be generated. If it does apply, it should contain what its title promises.

Author: Trac Migrate 2018-08-10T07:28:50.000Z

Original author: JSchweikhardt

- **Milestone** set to %”5.1”
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*
- **Version** set to ~”5”

Author: Trac Migrate 2018-08-20T06:27:25.000Z

Original author: JSchweikhardt

- **Resolution** set to ~”fixed”
- **Status** changed from *accepted* to *closed*

In [changeset:”762b8d7ad5688ee8d6320afdac06142c79a62070/rtems-docs”
762b8d7/rtems-docs]:

```
1 cpu-supplement: Remove empty command/vars chapter
2
3 Close #3498.
```

4.2.1.506 3501 - MSR_RI defined multiple places

Id	3501
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-08-14T23:23:02.000Z
Updated	2018-08-15T15:44:16.000Z
Milestone	5.1
Labels	arch:powerpc, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3501
Merges	0

Two files define the MSR_RI macro. Since one is a register name on the PowerPC, this shows up on 48 PowerPC BSPs. This is one example.

```
log/powerpc-qoriq_e6500_64.log:.././.././../././rtems/c/src/./../cpukit/dev/serial/sc16is752-
regs.h:117:0: warning: “MSR_RI” redefined log/powerpc-qoriq_e6500_64.log:
#define MSR_RI (1u << 6) log/powerpc-qoriq_e6500_64.log: #de-
fine MSR_RI (1<<1) /* Recoverable Exception / log/powerpc-
qoriq_e6500_64.log:.././.././../././rtems/c/src/./../cpukit/dev/serial/sc16is752-regs.h:117:0:
warning: “MSR_RI” redefined log/powerpc-qoriq_e6500_64.log: #define MSR_RI (1u << 6)
log/powerpc-qoriq_e6500_64.log: #define MSR_RI (1<<1) / Recoverable Exception */
```

Author: Joel Sherrill 2018-08-14T23:23:52.000Z

- **Owner** set to Christian Mauderer
- **Status** changed from *new* to *assigned*

Assigning to Christian since the git log says he added the file `cpukit/dev/serial/sc16is752-regs.h`

Author: Trac Migrate 2018-08-15T07:41:32.000Z

Also I didn't add the file but only the line in that file, it's quite clearly my responsibility. I was sure that this driver is only used in the ATSAM-BSP. But it seems that it is compiled for every BSP. I'll add a prefix to the register names and send a patch.

Author: Trac Migrate 2018-08-15T15:44:16.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"dcaea71741514f8f69869ac9e800ebedece0fbc4/rtems" dcaea71/rtems]:

```

1 dev/sc16is752: Add name space for field names.
2
3 The field names for the registers generated a name collision (MSR_RI on
4 the power pc). This patch adds a SC16IS752_ prefix for all field names.
5
6 Closes #3501.
```

4.2.1.507 3484 - RFS: Remove stray call of `rtems_disk_release()` in `rtems_rfs_buffer_sync()`

Id	3484
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-08-06T06:10:16.000Z
Updated	2018-08-10T04:55:38.000Z
Milestone	5.1
Labels	filesystem::rfs, priority::normal, resolution::fixed, tickettype::defect, version::4.10, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3484
Merges	0

Original author: sebastian.huber

The function `rtems_rfs_buffer_sync()` erroneously calls `rtems_disk_release()`. This screws up the reference counting of the disk.

Author: Trac Migrate 2018-08-07T05:24:56.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.10.3” to %”5.1”
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*
- **Version** changed from ~”4.10” to ~”5”

Author: Trac Migrate 2018-08-07T05:40:10.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”d56e68bb8be5a44e54652c59b787caf2911e7e57/rtems”
d56e68b/rtems]:

```

1 rfs: Remove erroneous call of rtems_disk_release()
2
3 The function rtems_rfs_buffer_sync() erroneously calls
4 rtems_disk_release(). This screws up the reference counting of the disk.
5
6 Close #3484.
```

4.2.1.508 3434 - Add CONFIGURE_MINIMUM_POSIX_THREAD_STACK_SIZE configuration option

Id	3434
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-05-25T08:39:15.000Z
Updated	2018-08-08T06:54:00.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::config, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3434
Merges	0

Original author: sebastian.huber

Author: Joel Sherrill 2018-05-25T15:10:03.000Z

Original author: sebastian.huber

What is your rationale and use case?

Author: Trac Migrate 2018-05-25T15:56:59.000Z

Original author: sebastian.huber

The use case is to overrule this somewhat arbitrary rule that the minimum POSIX thread stack size is twice the minimum standard stack size.

Author: Trac Migrate 2018-08-08T06:48:53.000Z

Original author: sebastian.huber

In [changeset:"fd27bae5b949f1beee2ca2ba4cccecc7e89f40cb/rtems" fd27bae/rtems]:

```
1 CONFIGURE_MINIMUM_POSIX_THREAD_STACK_SIZE
2
3 Make CONFIGURE_MINIMUM_POSIX_THREAD_STACK_SIZE configurable by the user.
4
5 Update #3434.
```

Author: Trac Migrate 2018-08-08T06:54:00.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"806806cdcf7ecd98bdcabd07378106e40376fc0ae/rtems-docs" 806806c/rtems-docs]:

```
1 c-user: CONFIGURE_MINIMUM_POSIX_THREAD_STACK_SIZE
2
3 Close #3434.
```

4.2.1.509 3285 - Reorganize BSP source directory

Id	3285
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-01-30T09:48:03.000Z
Updated	2018-08-03T12:15:34.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::build, tickettype::task, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3285
Merges	0

Original author: sebastian.huber

Now, that all BSP header files are in

- bsp/include
- bsp/@RTEMS_CPU@/include
- bsp/@RTEMS_CPU@/@RTEMS_BSP_FAMILY@/include

we should also move the BSP sources to this new directory tree. How do we want to organize the BSP sources in bsp/@RTEMS_CPU@/@RTEMS_BSP_FAMILY@?

- include (this is already there, see [#3254](#))
- config
- somebsp.cfg
- start (everything required to run a minimal application without devices)
- start.S
- bspstart.c
- bspsmp.c
- linkcmds
- cache (everything for the cache controller support)
- irq (everything for the interrupt controller support)
- console (everything for the console driver)
- clock (everything for the clock driver)
- i2c (everything for the I2C driver)
- spi (everything for the SPI driver)
- net (legacy network stack drivers)
- mpci (RTEMS_MULTIPROCESSING support)
- rtc (everything for the RTC driver)

- ata (everything for the ATA driver)
- contrib (import of external sources)
- The layout of external sources should be used as is if possible.

Author: Trac Migrate 2018-01-31T11:51:51.000Z

Original author: sebastian.huber

In [changeset:"4cf93658eff5cf6b0c02e98a0d1ec33dea5ed85c/rtems" 4cf93658/rtems]:

```

1 bsps: Rework cache manager implementation
2
3 The previous cache manager support used a single souce file
4 (cache_manager.c) which included an implementation header (cache_.h).
5 This required the use of specialized include paths to find the right
6 header file. Change this to include a generic implementation header
7 (cacheimpl.h) in specialized source files.
8
9 Use the following directories and files:
10
11 * bsps/shared/cache
12
13 * bsps/@RTEMS_CPU@/shared/cache
14
15 * bsps/@RTEMS_CPU@/@RTEMS_BSP_FAMILY/start/cache.c
16
17 Update #3285.
```

Author: Trac Migrate 2018-01-31T11:53:45.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 Now, that all BSP header files are in
2
3 * bsps/include
4 * bsps/@RTEMS_CPU@/include
5 * bsps/@RTEMS_CPU@/@RTEMS_BSP_FAMILY@/include
6
7 we should also move the BSP sources to this new directory tree. How do_
8 ↪ we want to organize the BSP sources in bsps/@RTEMS_CPU@/@RTEMS_BSP_
9 ↪ FAMILY@?
10
11 * include (this is already there, see #3254)
12 * start (everything required to run a minimal application without_
```

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```

↳devices)
11 * start.S
12 * bspstart.c
13 * linkcmds
14 * cache.c
15 * smp
16 * bspsmp.c
17 - * dev (Everything device driver related)
18 ?      ^
19
20 + * dev (everything device driver related)
21 ?      ^
22
23 * clock.c
24 * console.c
25 * i2c.c
26 * spi.c
27 * make
28 * somebsp.cfg
29 - * network (legacy network stack drivers)
30 + * net(legacy network stack drivers)
31 * mpci (RTEMS_MULTIPROCESSING support)
32 + * contrib (import of external sources)
33 +   * The layout of external sources should be used as is if possible.
34
35 Explicit directories for smp, network, mpci may make it possible to_
↳automatically generate the Makefile.am with an AM_CONDITIONAL() for_
↳the respective directory.
36
37 The excessive use of subdirectories which contain usually only one file_
↳should be avoided.
38
39 - The layout of external sources should be used as is if possible.
40 -
41 The first step is to move all libcpu sources to
42
43 * bsps/@RTEMS_CPU@/shared, or
44 * bsps/@RTEMS_CPU@/@RTEMS_BSP_FAMILY@.

```

Author: Trac Migrate 2018-02-02T06:09:05.000Z

Original author: sebastian.huber

In [changeset:"5f0a6376777e4a3449a8d449aa989b8373fc447b/rtems" 5f0a6376/rtems]:

```

1 bsp/leon3: Do not use internal cache API
2
3 Update #3285.

```

Author: Trac Migrate 2018-02-05T10:42:12.000Z

Original author: sebastian.huber

- **Milestone** changed from %”5.1” to %”6.1”

Author: Trac Migrate 2018-03-13T07:06:40.000Z

Original author: sebastian.huber

In [changeset:”a4570829708771783f81134e3fc4a66a1f20a776/rtems”
a4570829/rtems]:

```
1 bsp: Remove unused memcpy() implementations
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-13T07:06:50.000Z

Original author: sebastian.huber

In [changeset:”4c83f2926dd2744e006c17281d6cfa24d8e414a/rtems”
4c83f292/rtems]:

```
1 bsp: Remove unused RTEMS_CPU_MODEL
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-13T07:07:00.000Z

Original author: sebastian.huber

In [changeset:”961e2ef7bed382207c46099f8177b222c9f6af9c/rtems”
961e2ef/rtems]:

```
1 bsp/mips: Remove Mongoose-V README
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-13T07:07:11.000Z

Original author: sebastian.huber

In [changeset:"b6755affc05466a49e684c316ea6e6f00c21c370/rtems" b6755af/rtems]:

```
1 bsp/mips: Move libcpu content to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-13T07:07:22.000Z

Original author: sebastian.huber

In [changeset:"c4905d8d314f4325b18e4dbbd6cbfc5b0f75f313/rtems" c4905d8d/rtems]:

```
1 bsp/arm: Move libcpu content to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-13T07:07:32.000Z

Original author: sebastian.huber

In [changeset:"8b5778e69e7fc8393f7e192067116da09aec71df/rtems" 8b5778e/rtems]:

```
1 sparc: Move libcpu content to cpukit
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-13T07:07:42.000Z

Original author: sebastian.huber

In [changeset:"7633f5b3944a1ed9a7c23efd76602e7240276349/rtems" 7633f5b/rtems]:

```
1 sparc64: Move libcpu content to cpukit
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-19T12:12:49.000Z

Original author: sebastian.huber

In [changeset:"ac04bb85ebea019afe4253253945f978661b8fa2/rtems"
ac04bb85/rtems]:

```
1 bsp/powerpc: Move legacy IRQ support
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-19T12:13:00.000Z

Original author: sebastian.huber

In [changeset:"7dbc43da43901228713d12d5deab637d2c9af820/rtems"
7dbc43d/rtems]:

```
1 bsp/powerpc: Move basic support to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-19T12:13:10.000Z

Original author: sebastian.huber

In [changeset:"ff3b9aabca43e9f43622017ab6c36a39dc7b3599/rtems"
ff3b9aa/rtems]:

```
1 bsp/powerpc: Remove unused files
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-19T12:13:21.000Z

Original author: sebastian.huber

In [changeset:"bd1508019cfb219b41da7cb6f1a9895a69c64534/rtems"
bd150801/rtems]:

```
1 bsp/powerpc: Move exceptions support to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-19T12:13:32.000Z

Original author: sebastian.huber

In [changeset:"09dd82a5974d01525402e32f47d66ff1fe1b6a67/rtems"09dd82a/rtems]:

```
1 bsp/ss555: Move libcpu content to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-22T06:02:34.000Z

Original author: sebastian.huber

In [changeset:"a7fa9e9172deef4164d9d81c8da43ec0229c34ad/rtems"a7fa9e91/rtems]:

```
1 bsp/pc386: Move libcpu content to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-22T06:02:44.000Z

Original author: sebastian.huber

In [changeset:"f3a51d62e9de411d40a798144d07ad5a155f4ed3/rtems"f3a51d62/rtems]:

```
1 bsp/powerpc: Remove bsp_timer_internal_clock
2
3 The only consumer of this variable was the ppc403 clock driver used by
4 the
5
6 * haleakala,
7 * virtex, and
8 * virtex4
9
10 BSPs which set bsp_timer_internal_clock unconditionally to true.
11
12 Update #3285.
```

Author: Trac Migrate 2018-03-22T06:02:55.000Z

Original author: sebastian.huber

In [changeset:"bb22a3f3af86c00d70f51b4a3531640c0808261a/rtems"
bb22a3f3/rtems]:

```
1 bsp/powerpc: Move libcpu timer to bsp
2
3 Use only one timer driver variant based on the standard PowerPC time
4 base.
5
6 This patch is a part of the BSP source reorganization.
7
8 Update #3285.
```

Author: Trac Migrate 2018-03-22T07:42:45.000Z

Original author: sebastian.huber

In [changeset:"3f3f246a24cc165df555b4c6e5676e8c0aa128ba/rtems"
3f3f246a/rtems]:

```
1 bsp/mpc55xx: Remove unused files
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-22T07:42:55.000Z

Original author: sebastian.huber

In [changeset:"dc1ea019f3c5be4f45f0232fcac954b65610933f/rtems"
dc1ea01/rtems]:

```
1 bsp/mpc55xx: Move libcpu content to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T09:09:58.000Z

Original author: sebastian.huber

In [changeset:"b1b7390a4adeb44b90a4d39df84ef8dbfe70e3dd/rtems"
b1b7390/rtems]:

```
1 bsp/pc386: Fix build
2
```

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```
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T09:10:08.000Z

Original author: sebastian.huber

In [changeset:"96400050ed8fea231bdc5964b133892f22ccd2aa/rtems"
96400050/rtems]:

```
1 bsp/pc386: Remove unused RTEMS_CPU_MODEL  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T09:10:19.000Z

Original author: sebastian.huber

In [changeset:"e2bd1f653a3bbf969962082b9ccf1e73b0879819/rtems"
e2bd1f6/rtems]:

```
1 bsp/bfin: Move libcpu content to bsps  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T09:10:29.000Z

Original author: sebastian.huber

In [changeset:"0cab067f1cd3349907d4cc62e8812f0a5e146d75/rtems"
0cab067/rtems]:

```
1 bsps/powerpc: Move libcpu content to bsps  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T09:10:40.000Z

Original author: sebastian.huber

In [changeset:"a12dcff877bfe4ee8346b35947efab0aae7806e2/rtems" a12dcff8/rtems]:

```
1 bsp/mpc8260: Move libcpu content to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T09:10:51.000Z

Original author: sebastian.huber

In [changeset:"b8c468bc9a1442dfe834a211ff473b0907964f0d/rtems" b8c468b/rtems]:

```
1 bsp/tqm8xx: Move libcpu content to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T09:11:01.000Z

Original author: sebastian.huber

In [changeset:"11fe8c59c6c145bca52e977363183add0fbe1b59/rtems" 11fe8c59/rtems]:

```
1 bsp/powerpc: Move MMU support to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T09:11:12.000Z

Original author: sebastian.huber

In [changeset:"d813d9aa7513eff88e370309829e7d6faf982c2d/rtems" d813d9aa/rtems]:

```
1 bsp/powerpc: Move dec clock driver to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T09:11:22.000Z

Original author: sebastian.huber

In [changeset:"4fd1ff0f0d8d1e3029f488a011acd83115dccdef/rtems"
4fd1ff0f/rtems]:

```
1 bsp/powerpc: Move AltiVec support to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T09:11:32.000Z

Original author: sebastian.huber

In [changeset:"d7c232f70013f04ce94f876baa6ab4d5b7e90a51/rtems"
d7c232f/rtems]:

```
1 bsp/powerpc: Remove unused files
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T09:11:43.000Z

Original author: sebastian.huber

In [changeset:"2d33672a1844d104cd2a2328dac8e7a06ab28ace/rtems"
2d33672a/rtems]:

```
1 bsp/powerpc: Move ppc403 clock driver to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T09:11:53.000Z

Original author: sebastian.huber

In [changeset:"6882be717971b793d1d2f99e45c8a3d61beccf7c/rtems"
6882be7/rtems]:

```
1 bsp/powerpc: Remove libcpu/powerpc
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T09:12:04.000Z

Original author: sebastian.huber

In [changeset:"5f59e2ad3fb71677b0c2b2c6d362343129353410/rtems"5f59e2a/rtems]:

```
1 bsp/powerpc: Move dec timer driver
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T13:33:24.000Z

Original author: sebastian.huber

In [changeset:"f8e4755f871c11405df008e0e4313d6b8ffe3fb0/rtems"f8e4755f/rtems]:

```
1 bsp/m68k: Use namespace header
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T13:33:35.000Z

Original author: sebastian.huber

In [changeset:"1e23c47911bb4fec5a2c6fb9c1a4355721f76acb/rtems"1e23c47/rtems]:

```
1 bsp/m68k: Remove unused define
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T13:33:46.000Z

Original author: sebastian.huber

In [changeset:"fc2ec62978ac749d9f731fbc768e48e4f0c4a8f9/rtems"fc2ec62/rtems]:

```
1 bsp/m68k: Move libcpu content to bsp
2
```

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```
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T13:33:57.000Z

Original author: sebastian.huber

In [changeset:"3cf2bf633fe443460563cd00c6489d16c1073fee/rtems"
3cf2bf63/rtems]:

```
1 bsp/m68k: Move fsp support to bsp  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T13:34:08.000Z

Original author: sebastian.huber

In [changeset:"2190bc61bf60379a0a3c94e08b851fab309628c3/rtems"
2190bc6/rtems]:

```
1 bsp/mcf5206elite: Move libcpu content to bsp  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T13:34:19.000Z

Original author: sebastian.huber

In [changeset:"ddf3ea2bc3e4c60c4daa215a0f275a098ea9e59d/rtems"
ddf3ea2/rtems]:

```
1 bsp/csb360: Move libcpu content to bsp  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T13:34:30.000Z

Original author: sebastian.huber

In [changeset:"945095d0621757134bdf271fd12622ac16b57431/rtems" 945095d/rtems]:

```
1 bsp/bs/genmcf548x: Move libcpu content to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T13:34:53.000Z

Original author: sebastian.huber

In [changeset:"b54558ac9db27e03cc32ddb40a41706ea6bf77c9/rtems" b54558ac/rtems]:

```
1 bsp/mcf5225x: Move libcpu content to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T13:35:04.000Z

Original author: sebastian.huber

In [changeset:"5d395124adb82c4ce7da8d1d14b5bd3360f915cb/rtems" 5d39512/rtems]:

```
1 bsp/m68k: Remove libcpu/m68k
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-03-26T13:35:15.000Z

Original author: sebastian.huber

In [changeset:"699fee43fde1f37bbc23a039c6a78961041cefba/rtems" 699fee43/rtems]:

```
1 bsp: Remove libcpu
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-04T11:51:10.000Z

Original author: sebastian.huber

In [changeset:"66b99a13ac2653d54fae16f7985bd369df39a665/rtems" 66b99a1/rtems]:

```
1 bsps: Add RTEMS_BSP to bsports.h
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-04T11:51:21.000Z

Original author: sebastian.huber

In [changeset:"ce0ea6ff4f43221c202f64a11483b11f8521ce09/rtems" ce0ea6f/rtems]:

```
1 bsps: Add shared-sources.am
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-04T11:51:33.000Z

Original author: sebastian.huber

In [changeset:"4f0dca3ad265e1871f9558497647a522548f62d5/rtems" 4f0dca3a/rtems]:

```
1 bsps: Move version.c and use bsports.h
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
6 Update #3375.
```

Author: Trac Migrate 2018-04-04T11:51:45.000Z

Original author: sebastian.huber

In [changeset:"8621ed3806677c13553b560e1661e466c70d3021/rtems" 8621ed38/rtems]:

```
1 bsps: Move config macros to RTEMS_BSP_CONFIGURE
2
3 Provide HAS_NETWORKING and HAS_SMP Automake conditionals for all BSPs.
4
```

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```
5 This patch is a part of the BSP source reorganization.  
6  
7 Update #3285.
```

Author: Trac Migrate 2018-04-04T11:51:56.000Z

Original author: sebastian.huber

In [changeset:"27de4e1fb8bcdbdd8cb882fc0d7a2c152b4e027a/rtems"
27de4e1f/rtems]:

```
1 bsp: Move libchip to bsp  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-05T05:27:30.000Z

Original author: sebastian.huber

In [changeset:"82bc97663b5eda1bf653b0f08e4b71ffe0f4633b/rtems"
82bc976/rtems]:

```
1 bsp/bfin: Rename shared.am to shared-sources.am  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-05T05:27:40.000Z

Original author: sebastian.huber

In [changeset:"0f0f249c79fe2e080879596c3b85334a02504980/rtems"
0f0f249c/rtems]:

```
1 bsp/m68k: Rename fsp.am to fsp-sources.am  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-05T05:27:51.000Z

Original author: sebastian.huber

In [changeset:"6799a78983dd9d9b09ed069feacd9a4e74987667/rtems" 6799a78/rtems]:

```
1 bsp/powerpc: Rename to exceptions-sources.am
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-05T05:28:01.000Z

Original author: sebastian.huber

In [changeset:"d03ec77d098610f1067b3e408dcf5a02f955ba6e/rtems" d03ec77d/rtems]:

```
1 bsp/powerpc: Rename to shared-sources.am
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-09T05:12:18.000Z

Original author: sebastian.huber

In [changeset:"671c31fc5d20a82bf39cdcd2a105daa65e0eb555/rtems" 671c31fc/rtems]:

```
1 bsp: Move umon support to bsps
2
3 The umon support is only used by the csb337 BSP.
4
5 This patch is a part of the BSP source reorganization.
6
7 Update #3285.
```

Author: Trac Migrate 2018-04-09T05:12:38.000Z

Original author: sebastian.huber

In [changeset:"814eccb4cf0e5433bd884a48dfa8e219bb2d0dd0/rtems" 814eccb4/rtems]:

```
1 bsp: Move VME support to bsps
2
3 The VME support is only used by powerpc BSPs.
4
5 This patch is a part of the BSP source reorganization.
```

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6
7 Update [#3285](#).

Author: Trac Migrate 2018-04-09T05:12:54.000Z

Original author: sebastian.huber

In [\[changeset:"4b28d3c79729e582c3cde8392524a15f3e7923ca/rtems"4b28d3c/rtems\]](#):

1 bsp: Move shmdr to bsp
2
3 This patch **is** a part of the BSP source reorganization.
4
5 Update [#3285](#).

Author: Trac Migrate 2018-04-09T05:13:09.000Z

Original author: sebastian.huber

In [\[changeset:"d5842691e1a619eea4ec783ed2c3a5506e1dcbb9/rtems"d584269/rtems\]](#):

1 bsp: Remove librtmsbsp.a wrapup
2
3 This patch **is** a part of the BSP source reorganization.
4
5 Update [#3285](#).

Author: Trac Migrate 2018-04-09T05:13:25.000Z

Original author: sebastian.huber

In [\[changeset:"9b7c45673231ce5ddcebf2a88ba36783deb5a349/rtems"9b7c456/rtems\]](#):

1 bsp: Move generic IRQ support to bsp
2
3 This patch **is** a part of the BSP source reorganization.
4
5 Update [#3285](#).

Author: Trac Migrate 2018-04-09T09:38:23.000Z

Original author: sebastian.huber

In [\[changeset:"01d34a3705020bddcb1604f74ef056d309352b84/rtems"01d34a3/rtems\]](#):

```
1 bsp/csb337: Fix umon support
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-09T09:41:33.000Z

Original author: sebastian.huber

In [changeset:"b6069985b516f9a99525d5bfbd9186117660d592/rtems" b606998/rtems]:

```
1 bsp/genmcf548x: Fix IRQ support
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-10T05:19:34.000Z

Original author: sebastian.huber

In [changeset:"1ce4a9e0731d6e52c0b756ccf06042e44cb21f37/rtems" 1ce4a9e/rtems]:

```
1 bsps: Fix typo in MPCIE support
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-12T05:17:10.000Z

Original author: sebastian.huber

In [changeset:"f0bcae383e2108c0c8521751d589c6ed7f1be468/rtems" f0bcae38/rtems]:

```
1 bsps: Remove unused console_select_simple.c
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-12T05:17:20.000Z

Original author: sebastian.huber

In [changeset:"b43ea9fed2ce52997933704a522fc28ebcd27968/rtems" b43ea9f/rtems]:

```
1 bsp: Move legacy console driver to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-12T05:17:41.000Z

Original author: sebastian.huber

In [changeset:"b46f943c56a3bc5fafa2ec475577da6fa8f3475/rtems" b46f943c/rtems]:

```
1 bsp/motorola_powerpc: Move polled_io.c
2
3 This file was used by this BSP only. Avoid RTEMS_RELLDFLAGS.
4
5 This patch is a part of the BSP source reorganization.
6
7 Update #3285.
```

Author: Trac Migrate 2018-04-12T05:18:02.000Z

Original author: sebastian.huber

In [changeset:"6c4140cf7c7bcf50a4484cab6020e79adc13b562/rtems" 6c4140c/rtems]:

```
1 bsp: Avoid line continuation in Makefile.am
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-12T05:18:12.000Z

Original author: sebastian.huber

In [changeset:"b78b814b002810396fd73509bde9e8755d000972/rtems" b78b814/rtems]:

```
1 bsp: Avoid source variables in Makefile.am
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-12T05:18:25.000Z

Original author: sebastian.huber

In [changeset:"b10caf8bd01d800a8e9e4a8907408bcbb09a5185/rtems" b10caf8/rtems]:

```
1 bsp: Remove headers from librtemsbsp_a_SOURCES
2
3 This was used by the not supported "make dist".
4
5 This patch is a part of the BSP source reorganization.
6
7 Update #3285.
```

Author: Trac Migrate 2018-04-12T05:18:36.000Z

Original author: sebastian.huber

In [changeset:"4359c43351de70d75a1e98187bc3952af0f9baae/rtems" 4359c43/rtems]:

```
1 bsp: Simplify source file path in Makefile.am
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-12T05:18:47.000Z

Original author: sebastian.huber

In [changeset:"c5fe44319e7d82883f6624d9b2386d9dd7c3c0eb/rtems" c5fe4431/rtems]:

```
1 bsp: Move bootcard.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-12T05:18:58.000Z

Original author: sebastian.huber

In [changeset:"ff24c90d84d560744d02f432c89f6a3b062db321/rtems" ff24c90d/rtems]:

```
1 bsp: Remove empty gnatinstallhandler.c
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-13T07:45:53.000Z

Original author: sebastian.huber

I move slowly to the real BSP sources. After some review and effort calculation I propose a new structure for the BSPs in bsp/@RTEMS_CPU@/@RTEMS_BSP_FAMILY@:

- include (this is already there, see [#3254](#))
- make
- somebsp.cfg
- start (everything required to run a minimal application without devices)
- start.S
- bspstart.c
- bspsmc.c
- linkcmds
- cache (everything for the cache controller support)
- irq (everything for the interrupt controller support)
- console (everything for the console driver)
- clock (everything for the clock driver)
- i2c (everything for the I2C driver)
- spi (everything for the SPI driver)
- net (legacy network stack drivers)
- mpci (RTEMS_MULTIPROCESSING support)
- contrib (import of external sources)
- The layout of external sources should be used as is if possible.

This essentially removes the new dev directory of the original proposal and is closer to the existing BSP layout. The existing layout has standard directory names, but the file names vary greatly. This new proposal helps to move the files with less human intervention.

Author: Joel Sherrill 2018-04-13T12:36:21.000Z

Original author: sebastian.huber

I see you are back to moving the contents of make/custom to make/. I still have my local branch where I was well along the path of doing that. I can resurrect it if desired.

Author: Chris Johns 2018-04-14T04:30:25.000Z

Original author: sebastian.huber

I suggest we move away from make to config. Make is an implementation.

Can we please create a doc type file in the bsps to list the directories we allow?

Author: Trac Migrate 2018-04-17T05:06:11.000Z

Original author: sebastian.huber

In [changeset:"90013f59bd9abad8220e0f91c5807daa06f14971/rtems" 90013f59/rtems]:

```
1 bsps: Move tod.c to bsps and rename
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-17T05:06:23.000Z

Original author: sebastian.huber

In [changeset:"1cba1de115f705724f9b2f3ead25de7def78bf39/rtems" 1cba1de/rtems]:

```
1 bsps: Move bsp-fdt.c to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-17T05:06:33.000Z

Original author: sebastian.huber

In [changeset:"9d44ae78cf67f7fe1b22ecbd4f9d244f791758e6/rtems" 9d44ae7/rtems]:

```
1 bsps: Move bsp-uboot-board-info.c to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```


Author: Trac Migrate 2018-04-17T05:06:44.000Z

Original author: sebastian.huber

In [changeset:"0a09ac58ac2844792dd496aa3c35ce692779d9bd/rtems" 0a09ac58/rtems]:

```
1 bsp: Move stackalloc.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-17T05:06:54.000Z

Original author: sebastian.huber

In [changeset:"223e22f1ed0b8b65de8c7083d8f22e02e9079fc1/rtems" 223e22f/rtems]:

```
1 bsp: Move uart-output-char.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-17T09:02:22.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```
1 Now, that all BSP header files are in
2
3 * bsp/include
4 * bsp/@RTEMS_CPU@/include
5 * bsp/@RTEMS_CPU@/@RTEMS_BSP_FAMILY@/include
6
7 we should also move the BSP sources to this new directory tree. How do_
8 ↪ we want to organize the BSP sources in bsp/@RTEMS_CPU@/@RTEMS_BSP_
9 ↪ FAMILY@?
10
11 * include (this is already there, see #3254)
12 + * config
13 + * somebsp.cfg
14 * start (everything required to run a minimal application without_
15 ↪ devices)
```

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```

13 * start.S
14 * bspstart.c
15 + * bspsmp.c
16 * linkcmds
17 + * cache (everything for the cache controller support)
18 + * irq (everything for the interrupt controller support)
19 + * console (everything for the console driver)
20 + * clock (everything for the clock driver)
21 + * i2c (everything for the I2C driver)
22 + * spi (everything for the SPI driver)
23 - * cache.c
24 - * smp
25 - * bspsmp.c
26 - * dev (everything device driver related)
27 - * clock.c
28 - * console.c
29 - * i2c.c
30 - * spi.c
31 - * make
32 - * somebsp.cfg
33 - * net(legacy network stack drivers)
34 + * net (legacy network stack drivers)
35 ?      +
36
37 * mpci (RTEMS_MULTIPROCESSING support)
38 + * rtc (everything for the RTC driver)
39 + * ata (everything for the ATA driver)
40 * contrib (import of external sources)
41 * The layout of external sources should be used as is if possible.
42 -
43 - Explicit directories for smp, network, mpci may make it possible to_
44 ↪ automatically generate the Makefile.am with an AM_CONDITIONAL() for_
45 ↪ the respective directory.
46 -
47 - The excessive use of subdirectories which contain usually only one_
48 ↪ file should be avoided.
49 -
50 - The first step is to move all libcpu sources to
51 -
52 - * bsps/@RTEMS_CPU@/shared, or
53 - * bsps/@RTEMS_CPU@/@RTEMS_BSP_FAMILY@.

```

Author: Trac Migrate 2018-04-20T13:04:46.000Z

Original author: sebastian.huber

In [changeset:"300cc6806ceb92c1fe50b4336f1de9c11a58c374/rtems-docs"
300cc68/rtems-docs]:

```
1 bsp-howto: Update BSP source code structure
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:24:24.000Z

Original author: sebastian.huber

In [changeset:"4826858e422046c2e4b3af5b4f130720c2cfc6f5/rtems" 4826858/rtems]:

```
1 motorola_powerpc: Remove headers from *_SOURCES
2
3 This was used by the not supported "make dist".
4
5 This patch is a part of the BSP source reorganization.
6
7 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:24:35.000Z

Original author: sebastian.huber

In [changeset:"43bda786e7169523052649b372a0beba365c6e2e/rtems" 43bda786/rtems]:

```
1 bsp: Move bspclean.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:24:46.000Z

Original author: sebastian.huber

In [changeset:"554e39c8e5ffa8ec9fcb894007fdb8cdad126c/rtems" 554e39c/rtems]:

```
1 bsp: Move bspreset.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:24:58.000Z

Original author: sebastian.huber

In [changeset:"07364103a867d0eac1623eb053a55a340e88ff82/rtems"
0736410/rtems]:

```
1 bsp: Move bspreset_loop.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:25:09.000Z

Original author: sebastian.huber

In [changeset:"0b93d4f843caa9228ae0a89a1692bf99a2a82f9a/rtems"
0b93d4f8/rtems]:

```
1 bsp: Move bspstart.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:25:32.000Z

Original author: sebastian.huber

In [changeset:"5a06b187fb33b5b4a93ea2462f4af2121b29259d/rtems"
5a06b187/rtems]:

```
1 bsp: Move bspgetworkarea.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:25:43.000Z

Original author: sebastian.huber

In [changeset:"a884df35945d8e7ec4171f16e6a4995b9fffc048/rtems"
a884df3/rtems]:

```
1 bsp/motorola_powerpc: Move bspstart.c to bsp
2
3 This shared powerpc file was only used by this BSP.
4
5 This patch is a part of the BSP source reorganization.
```

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6
7 Update [#3285](#).

Author: Trac Migrate 2018-04-20T13:26:04.000Z

Original author: sebastian.huber

In [\[changeset:"0510cd506b2dcf2076048cbd5a6155a92a012d43/rtems"0510cd50/rtems\]](#):

1 bsps: Move doxygen.h files to bsps
2
3 This patch **is** a part of the BSP source reorganization.
4
5 Update [#3285](#).

Author: Trac Migrate 2018-04-20T13:26:15.000Z

Original author: sebastian.huber

In [\[changeset:"f9239014db4d20349a24d31c2a0ce9cce3c76a4f/rtems"f923901/rtems\]](#):

1 bsps: Move pci_bus_count.c to bsps
2
3 This patch **is** a part of the BSP source reorganization.
4
5 Update [#3285](#).

Author: Trac Migrate 2018-04-20T13:26:25.000Z

Original author: sebastian.huber

In [\[changeset:"9ec8cfc59cc6813b23ca1a5746d3db23ee239833/rtems"9ec8cfc5/rtems\]](#):

1 bsps: Move pci_find_device.c to bsps
2
3 This patch **is** a part of the BSP source reorganization.
4
5 Update [#3285](#).

Author: Trac Migrate 2018-04-20T13:26:36.000Z

Original author: sebastian.huber

In [\[changeset:"8d04f18c7634c0cb40ba8fc3dde74b5931a99190/rtems"8d04f18/rtems\]](#):

```
1 bsp: Remove unused rtems-stub-glue.c
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:26:47.000Z

Original author: sebastian.huber

In [\[changeset:"4b9015c36c33396d56714bdc1088fd786a465483/rtems"4b9015c/rtems\]](#):

```
1 bsp: Remove unused irq.h template file
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:26:57.000Z

Original author: sebastian.huber

In [\[changeset:"d6fb37aa9fdb7ee5175a82875f6e16b9acd5f12a/rtems"d6fb37a/rtems\]](#):

```
1 bsp: Move shared btimer support to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:27:09.000Z

Original author: sebastian.huber

In [\[changeset:"ef7845482a3863fb1b4fd6d42408deb69f959d2e/rtems"ef78454/rtems\]](#):

```
1 bsp: Move gpio.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:27:20.000Z

Original author: sebastian.huber

In [changeset:"79b9fe67ee49e3bef036bc03b1ac0c8e7b671ca3/rtems"79b9fe6/rtems]:

```
1 bsp: Move getentropy-cpucounter.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:27:30.000Z

Original author: sebastian.huber

In [changeset:"7806d9c020e5da3ad1b5ce7af4c7c68def8de6c9/rtems"7806d9c0/rtems]:

```
1 bsp: Move shared CPU counter support to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:27:42.000Z

Original author: sebastian.huber

In [changeset:"a4429391b6bb9673cace35bb69edf35951fc6742/rtems"a442939/rtems]:

```
1 bsp: Move sbrk.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:27:53.000Z

Original author: sebastian.huber

In [changeset:"bc010a8d48b85e3f408f0a136462b3783cf121a0/rtems"bc010a8d/rtems]:

```
1 bsp: Move setvec.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:28:04.000Z

Original author: sebastian.huber

In [changeset:"2584f5b2b54b4e67a544492472ce3a90b10a405f/rtems"
2584f5b/rtems]:

```
1 bsp: Move bsp.smp.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:28:16.000Z

Original author: sebastian.huber

In [changeset:"5c5b021f518cb90289daa3ca0032aa57f0569e41/rtems"
5c5b021/rtems]:

```
1 bsp: Move bsp.smp.getcurrentprocessor.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:28:28.000Z

Original author: sebastian.huber

In [changeset:"7632906fc290b652416ab59eb5fb49356c064ed6/rtems"
7632906/rtems]:

```
1 bsp: Move clock drivers to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:28:40.000Z

Original author: sebastian.huber

In [changeset:"58adad484e04859da6977c4d67324b4db90b0e26/rtems"
58adad4/rtems]:

```
1 bsp/powerpc: Move shared btimer support
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:28:54.000Z

Original author: sebastian.huber

In [changeset:"d7d66d7d4523b904c8ccc6aea3709dc0d5aa5bdc/rtems"
d7d66d7/rtems]:

```
1 bsp: Move console drivers to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:29:08.000Z

Original author: sebastian.huber

In [changeset:"fbcd7c8fa65eb695e96a62ea1c1ac7a024fa9dfc/rtems"
fbcd7c8f/rtems]:

```
1 bsp: Move start files to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:29:22.000Z

Original author: sebastian.huber

In [changeset:"99648958668d3a33ee57974479b36201fe303f34/rtems"
9964895/rtems]:

```
1 bsp: Move startup files to bsp
2
3 Adjust build support files to new directory layout.
4
5 This patch is a part of the BSP source reorganization.
6
7 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:29:35.000Z

Original author: sebastian.huber

In [changeset:"e0dd8a5ad830798bc8082b03b8c42c32fb9660e0/rtems"
e0dd8a5a/rtems]:

```
1 bsp: Move benchmark timer to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:29:47.000Z

Original author: sebastian.huber

In [changeset:"28b4c7acc4ef668488103a67341460caa862af36/rtems" 28b4c7ac/rtems]:

```
1 sparc: Move _CPU_Trap_slot_template
2
3 The definition of _CPU_Trap_slot_template is BSP-independent. A
4 potential para-virtualization support may use <rtems/score/paravirt.h>.
5
6 This patch is a part of the BSP source reorganization.
7
8 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:29:57.000Z

Original author: sebastian.huber

In [changeset:"c49896f1c0f16fd8ef7983ecc47f86e2f32dd6e6/rtems" c49896f/rtems]:

```
1 sparc: Move irq_asm.S
2
3 This file is BSP-independent.
4
5 This patch is a part of the BSP source reorganization.
6
7 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:30:09.000Z

Original author: sebastian.huber

In [changeset:"d60d303cf1fbf352e5d40eba472183b402069bc2/rtems" d60d303c/rtems]:

```
1 bsp/sparc: Move shared files to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:30:20.000Z

Original author: sebastian.huber

In [changeset:"b15cb636e18f7810f529ecb66f99eaf1ac1c18c9/rtems" b15cb636/rtems]:

```
1 bsp/sparc: Move network drivers to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:30:30.000Z

Original author: sebastian.huber

In [changeset:"1efalc8389604dcf303b9acfa26c0ae60db9d9b4/rtems" 1efalc8/rtems]:

```
1 bsp: Move MPCIE support to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:30:40.000Z

Original author: sebastian.huber

In [changeset:"96faf12a24bf32f8068025d875aa21f4654b570a/rtems" 96faf12/rtems]:

```
1 bsp/sparc: Move gnat supp to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:30:51.000Z

Original author: sebastian.huber

In [changeset:"67e472cb4242c9bd0e2f12a7ef887a335f1045ff/rtems" 67e472c/rtems]:

```
1 bsp/leon2: Move PCI driver to bsp
2
```

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```
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:31:01.000Z

Original author: sebastian.huber

In [changeset:"13091dc41c7d9498068203e20538b05ee5ba6ba2/rtems"
13091dc4/rtems]:

```
1 bsp/leon3: Move AMBA support to bsp  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-20T13:35:45.000Z

Original author: sebastian.huber

In [changeset:"4b70ed9e8c29b78f32f040681b805ed8295166bf/rtems"
4b70ed9/rtems]:

```
1 bsp/mvme147s: Fix Makefile.am  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T05:54:44.000Z

Original author: sebastian.huber

In [changeset:"676d3d5d286a4e6bdcac6cdc840ac1a6e87ae24e/rtems-docs"
676d3d5/rtems-docs]:

```
1 bsp-howto: Avoid :file: role with ${...}  
2  
3 The curly braces have a special meaning in the :file: role.  
4  
5 This patch is a part of the BSP source reorganization.  
6  
7 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:16:02.000Z

Original author: sebastian.huber

In [changeset:"1645debc4fa7ad2f4739cf709dc1378dd5b317d1/rtems-source-builder" 1645deb/rtems-source-builder]:

```
1 bootstrap: Do not generate acinclude.m4 files
2
3 Do not generate files which are part of the Git repository. These files
4 should be maintained manually in the future.
5
6 This patch is a part of the BSP source reorganization.
7
8 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:19:00.000Z

Original author: sebastian.huber

In [changeset:"37dc0471b278c325cf6181701fd8a4514262b148/rtems" 37dc047/rtems]:

```
1 bsp: Remove AC_CONFIG_SRCDIR()
2
3 This AC_CONFIG_SRCDIR() is just a sanity check in this insane build
4 system. Since all content of
5 c/src/lib/libbsp/@RTEMS_CPU@/@RTEMS_BSP_FAMILY@ is bound to be moved it
6 makes no sense to keep it.
7
8 This patch is a part of the BSP source reorganization.
9
10 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:19:11.000Z

Original author: sebastian.huber

In [changeset:"adb85dd473af5c9a72e9da9b7fe013d1b216abc3/rtems" adb85dd/rtems]:

```
1 bsp: Move make/custom/* files to bsp
2
3 Adjust various build files. Remove automatic generation of the
4 c/src/lib/libbsp/*/acinclude.m4 files from bootstrap script.
5
6 This patch is a part of the BSP source reorganization.
7
8 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:19:21.000Z

Original author: sebastian.huber

In [changeset:"f004ace8280bd973b6b986402a805f684263aefb/rtems"
f004ace/rtems]:

```
1 bsp/altera-cyclone-v: Move hwlib to bsp  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:19:32.000Z

Original author: sebastian.huber

In [changeset:"54aabb70eb9ad64d3bcb9f95968de6a4473ebe3b/rtems"
54aabb7/rtems]:

```
1 bsp/atsam: Move libraries to bsp  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:19:43.000Z

Original author: sebastian.huber

In [changeset:"a0f04d65dd5eed3453af31eb7893c0b069bfdedd/rtems"
a0f04d6/rtems]:

```
1 bsp/gen5200: Move bestcomm to bsp  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:19:53.000Z

Original author: sebastian.huber

In [changeset:"a62c75c1e384c2388e4c193d661183f5ac48a764/rtems"
a62c75c1/rtems]:

```
1 bsp/tms570: Move more start to bsp  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:20:05.000Z

Original author: sebastian.huber

In [changeset:"3bd30f4a2f2522ee0e3127389c65a40d43247ddd/rtems" 3bd30f4/rtems]:

```
1 bsp/arm: Remove unused stm32f* files
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:20:16.000Z

Original author: sebastian.huber

In [changeset:"a2dad96ab736f66ed54421cad53caf31f250e181/rtems" a2dad96/rtems]:

```
1 bsp: Move I2C drivers to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:20:26.000Z

Original author: sebastian.huber

In [changeset:"276afd2b4812bef2476456476af7e5392102d8a6/rtems" 276afd2b/rtems]:

```
1 bsp: Move SPI drivers to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:20:37.000Z

Original author: sebastian.huber

In [changeset:"8f8ccee0d9e1c3adfb1de484f26f6d9f6ff08708/rtems" 8f8ccee/rtems]:

```
1 bsp: Move interrupt controller support to bsp
2
```

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```
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:20:48.000Z

Original author: sebastian.huber

In [changeset:"031df3914990db0336a0d386fb53558b05de467e/rtems"
031df391/rtems]:

```
1 bsp: Move legacy network drivers to bsp  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:20:59.000Z

Original author: sebastian.huber

In [changeset:"4fb1b79a804ca8de866be0ef718e54e1f62fa3ec/rtems"
4fb1b79/rtems]:

```
1 bsp: Move RTC drivers to bsp  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:21:13.000Z

Original author: sebastian.huber

In [changeset:"142175ef7d081277efc3886dc37c807023bcdde8/rtems"
142175ef/rtems]:

```
1 bsp/sparc64: Move helenos to bsp  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:21:27.000Z

Original author: sebastian.huber

In [changeset:"4ccbac630705ac0a94b377434131e6121b1733d2/rtems" 4ccbac63/rtems]:

```
1 bsp/v850: Move crt1.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:21:40.000Z

Original author: sebastian.huber

In [changeset:"fd67814e06a734cd0d78274d61fc04c7af79b5fc/rtems" fd67814/rtems]:

```
1 bsp: Move GDB stubs to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:21:52.000Z

Original author: sebastian.huber

In [changeset:"b4de37fd4c209c550cb4705771bbe844c66a17a0/rtems" b4de37fd/rtems]:

```
1 bsp/sh: Move bsphwinit.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:22:03.000Z

Original author: sebastian.huber

In [changeset:"e617455f18f37ca3609ad344b5a098cdd5f9cc24/rtems" e617455/rtems]:

```
1 bsp/sh: Move setvec.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:22:14.000Z

Original author: sebastian.huber

In [changeset:"6e1cf37da57769f0291740982143957fb60a43cd/rtems"
6e1cf37/rtems]:

```
1 bspsh: Move console.c to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:22:24.000Z

Original author: sebastian.huber

In [changeset:"5a4e3dc0a5af631b1723858bc50a9af1545392fb/rtems"
5a4e3dc0/rtems]:

```
1 bsps: Move PCI drivers to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:22:35.000Z

Original author: sebastian.huber

In [changeset:"fc79b268eb1d0588588c529888ce585f5cac7c0/rtems"
fc79b26/rtems]:

```
1 bsps: Move ATA drivers to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-23T13:22:45.000Z

Original author: sebastian.huber

In [changeset:"2197852371ea390092fcc6b5314a2e669a67e1a2/rtems"
21978523/rtems]:

```
1 bsps/lm32: Move shared drivers to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:25:02.000Z

Original author: sebastian.huber

In [changeset:"56bd37bfbe4edbcacfb527c122b48f799c7ae2b1/rtems"
56bd37bf/rtems]:

```
1 bsp: Remove unmaintained times files
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:25:12.000Z

Original author: sebastian.huber

In [changeset:"c99e4f4e73645a806151bd8412ef3e738dd5b765/rtems"
c99e4f4e/rtems]:

```
1 bsp: Remove obsolete documentation
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:25:22.000Z

Original author: sebastian.huber

In [changeset:"65e59cc07056a1a0362bcb2f8dcd430986f3c965/rtems"
65e59cc/rtems]:

```
1 bsp/arm: Move bsp_memory_management_initialize()
2
3 This function is only used by the raspberrypi BSP.
4
5 This patch is a part of the BSP source reorganization.
6
7 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:25:33.000Z

Original author: sebastian.huber

In [changeset:"0180acf23fe292c1acbb98f84d55428175f9bf43/rtems"
0180acf2/rtems]:

```
1 bsp/arm: Remove unused shared/comm/uart.c
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:25:43.000Z

Original author: sebastian.huber

In [\[changeset:"03e1d8378ecee81bd6ac40b41145c36dfd8752a4/rtems"03e1d837/rtems\]](#):

```
1 bsp/powerpc: Move bootloader to bsp
2
3 This bootloader is only used by the motorola_powerpc BSP.
4
5 This patch is a part of the BSP source reorganization.
6
7 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:25:54.000Z

Original author: sebastian.huber

In [\[changeset:"2101f54bef0daab3caddb1013d18f139240e723c3/rtems"2101f54/rtems\]](#):

```
1 bsp: Move uboot_getenv.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:26:04.000Z

Original author: sebastian.huber

In [\[changeset:"670f10439034f439252ca9a12b5a09c3aadf635a/rtems"670f104/rtems\]](#):

```
1 bsp: Move uboot_dump_binfo.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:26:15.000Z

Original author: sebastian.huber

In [changeset:"1163f50285570c6136e1a3f0b2a39a2aafce45d9/rtems"
1163f502/rtems]:

```
1 bsps: Move tictac.c to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:26:26.000Z

Original author: sebastian.huber

In [changeset:"b8777d93ced8f9f53bff85fdd25950e9eee42fae/rtems"
b8777d9/rtems]:

```
1 bsps: Move memcpy.c to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:26:36.000Z

Original author: sebastian.huber

In [changeset:"70914613cb4b7126ff62fa387507c6babf72aa95/rtems"
7091461/rtems]:

```
1 bsps: Move ppc-exc-handler-table.c to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:26:47.000Z

Original author: sebastian.huber

In [changeset:"1cc69e139ded8e2aada87e921cac0085c4d91bef/rtems"
1cc69e1/rtems]:

```
1 bsps: Move showbats.c to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:26:57.000Z

Original author: sebastian.huber

In [changeset:"173e157da4b260cc922f75f3d0d1c0388a38266e/rtems"
173e157/rtems]:

```
1 bsp: Move residual.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:27:08.000Z

Original author: sebastian.huber

In [changeset:"499385e41fe1e9c148a87e5be7371a9a42090556/rtems"
499385e/rtems]:

```
1 bsp: Move motorola.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:27:18.000Z

Original author: sebastian.huber

In [changeset:"afa90ee59d3297f12ab8e863cfda18ae9e48f38c/rtems"
afa90ee5/rtems]:

```
1 bsp: Move vpd.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:27:29.000Z

Original author: sebastian.huber

In [changeset:"b5d4c80eabf0206df2e7c0eac3a273a44b0b6ec5/rtems"
b5d4c80/rtems]:

```
1 bsp: Move flash.c to bsp
2
```

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```
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:27:41.000Z

Original author: sebastian.huber

In [changeset:"ff049356a9b5a64a9c4aaf8aa7fbba3e8c490a4c/rtems"
ff04935/rtems]:

```
1 bsp: Move intelFlash.c to bsp  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:27:53.000Z

Original author: sebastian.huber

In [changeset:"fe077b3ddddd01fd6762c76b2e8fd40765c1aff4/rtems"
fe077b3/rtems]:

```
1 bsp: Move spansionFlash.c to bsp  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:28:04.000Z

Original author: sebastian.huber

In [changeset:"c7410f17837037fc5dbe94a4dfbb8ed7330b5d29/rtems"
c7410f17/rtems]:

```
1 bsp/m68k: Remove unused files  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:28:16.000Z

Original author: sebastian.huber

In [changeset:"7a8e71bd708ac77653b578c250e76c4c3271ca92/rtems" 7a8e71b/rtems]:

```
1 bsp/i386: Move shared files to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:28:27.000Z

Original author: sebastian.huber

In [changeset:"c3a44343148ff1964e366c5ae96b36b39ff1c856/rtems" c3a44343/rtems]:

```
1 bsp: Move bspreset.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:28:38.000Z

Original author: sebastian.huber

In [changeset:"d7a9eb90b6117ed71f5870285cd9fd46aab215e5/rtems" d7a9eb90/rtems]:

```
1 bsp: Move armv7m-cpucounter.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:28:49.000Z

Original author: sebastian.huber

In [changeset:"e2f63219df6ddd146cde493f2ad1c671eecbbddf/rtems" e2f63219/rtems]:

```
1 bsp: Move arm-a9mpcore-clock-config.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:28:59.000Z

Original author: sebastian.huber

In [changeset:"1ded97b93eb0a8a702016fd821a160565e281334/rtems"
1ded97b9/rtems]:

```
1 bsp: Move arm-generic-timer-clock-config.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:29:10.000Z

Original author: sebastian.huber

In [changeset:"bbedc47b8942a3465939ab6c5a300c4ab8dfb46c/rtems"
bbedc47b/rtems]:

```
1 bsp: Move arm-pl111-fb.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:29:20.000Z

Original author: sebastian.huber

In [changeset:"3ad74cbac79f71ba8d0c985557d8d81977154ae2/rtems"
3ad74cba/rtems]:

```
1 bsp: Move arm-pl011.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:29:31.000Z

Original author: sebastian.huber

In [changeset:"fc6d8c2ba5566a804386628855ad4980e764be03/rtems"
fc6d8c2/rtems]:

```
1 bsp: Move arm-pl050.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:29:41.000Z

Original author: sebastian.huber

In [changeset:"864e72e400c0b35bdd344ab750dfb0fb169e30f6/rtems" 864e72e/rtems]:

```
1 bsp: Move arm-a9mpcore-smp.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:29:52.000Z

Original author: sebastian.huber

In [changeset:"aa705fe3473d64208d796d7ac7404a255ac4078a/rtems" aa705fe/rtems]:

```
1 bsp: Move arm-cp15-set-exception-handler.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-24T08:30:02.000Z

Original author: sebastian.huber

In [changeset:"891754f764aa9f6959f0deb2fbb4f269f63d5f05/rtems" 891754f7/rtems]:

```
1 bsp: Move arm-cp15-set-ttb-entries.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:32:10.000Z

Original author: sebastian.huber

In [changeset:"b07da56e148821c97ecb4efcdd32a4705b8d9aca/rtems" b07da56e/rtems]:

```
1 bsp/gensh4: Move hw_init.c to bsp
2
```

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```

3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.

```

Author: Trac Migrate 2018-04-25T12:32:21.000Z

Original author: sebastian.huber

In [changeset:"8bf101c06cc4bbb57db2475b467b8f74ede33067/rtems"8bf101c/rtems]:

```

1 bsp/virtex4: Move mmu.c to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.

```

Author: Trac Migrate 2018-04-25T12:32:32.000Z

Original author: sebastian.huber

In [changeset:"25787041cf14b1e5237ef9539cd81c8090a8ba9f/rtems"25787041/rtems]:

```

1 bsp/virtex5: Move mmu.c to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.

```

Author: Trac Migrate 2018-04-25T12:32:43.000Z

Original author: sebastian.huber

In [changeset:"8f12ee32b647fa6b26c20ba1b6ba7133e5349cea/rtems"8f12ee32/rtems]:

```

1 bsp/mvme5500: Move source files to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.

```

Author: Trac Migrate 2018-04-25T12:32:54.000Z

Original author: sebastian.huber

In [changeset:"bf16ee53cb35b158f485bf6fd97c17c4df5f3be2/rtems"bf16ee5/rtems]:

```
1 bsp/mvme3100: Move flashcfg.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:33:05.000Z

Original author: sebastian.huber

In [changeset:"8266fb53f9c1c19768314e77a91792f3f55312ab/rtems"8266fb5/rtems]:

```
1 bsp/beatnik: Move source files to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:33:16.000Z

Original author: sebastian.huber

In [changeset:"95d5426cab19896a3eaa024e8f9be52714ced846/rtems"95d5426c/rtems]:

```
1 bsp/haleakala: Move mmu_405.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:33:27.000Z

Original author: sebastian.huber

In [changeset:"64d4fc7788dbf30d408a3433d5b6d850b0ed759c/rtems"64d4fc7/rtems]:

```
1 bsp/gen5200: Move source files to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:33:38.000Z

Original author: sebastian.huber

In [changeset:"100c9723d1558d676068aee0391984a91f517781/rtems"
100c972/rtems]:

```
1 bsp/mrm332: Move spinit.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:33:50.000Z

Original author: sebastian.huber

In [changeset:"0e15ba3ea3729ca424011eae00d160f8b9d458a1/rtems"
0e15ba3/rtems]:

```
1 bsp/mrm332: Move interr.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:34:03.000Z

Original author: sebastian.huber

In [changeset:"a79d650d0df238b7286379ca5e11566eda3a2cfe/rtems"
a79d650/rtems]:

```
1 bsp/mcf5206elite: Move nvram.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:34:16.000Z

Original author: sebastian.huber

In [changeset:"4183b71141833ba2b5822a2adc7625cda2f61eaa/rtems"
4183b711/rtems]:

```
1 bsp/tms570: Move cpucounterread.c to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:34:29.000Z

Original author: sebastian.huber

In [changeset:"ede0eb31e8a4eeb809bcab0d7e9c96e5dfaf967b/rtems"ede0eb3/rtems]:

```
1 bsp/smdk2410: Move smc.c to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:34:43.000Z

Original author: sebastian.huber

In [changeset:"fc1bdb839ef154cc90ff43edf3a5ea21b6b7f789/rtems"fc1bdb83/rtems]:

```
1 bsp/raspberrypi: Move source files to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:34:54.000Z

Original author: sebastian.huber

In [changeset:"43250167c69b00d3bb188b1e637816e946a3b143/rtems"43250167/rtems]:

```
1 bsp/lpc32xx: Move source files to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:35:06.000Z

Original author: sebastian.huber

In [changeset:"74df15caecf05c9c2007e71b5a185d3c289a6152/rtems"74df15c/rtems]:

```
1 bsp/lpc24xx: Move source files to bsps
2
```

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```
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:35:18.000Z

Original author: sebastian.huber

In [changeset:"e945b049dc650ee2270740585a2c6d14bd925279/rtems"
e945b049/rtems]:

```
1 bsp/lpc176x: Move source files to bsps  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:35:29.000Z

Original author: sebastian.huber

In [changeset:"82bfda9258821f71a9af325a460fd3abe5552df5/rtems"
82bfda92/rtems]:

```
1 bsp/lm3s69xx: Move ssi.c to bsps  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:35:40.000Z

Original author: sebastian.huber

In [changeset:"720ebc00d8dc0411a424d8d5e0b717418d764d3f/rtems"
720ebc0/rtems]:

```
1 bsp/gumstix: Move fb.c to bsps  
2  
3 This patch is a part of the BSP source reorganization.  
4  
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:35:51.000Z

Original author: sebastian.huber

In [changeset:"531d160672f2829350138a8ac990de7d78c01ddf/rtems" 531d160/rtems]:

```
1 bsp/beagle: Move source files to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:36:02.000Z

Original author: sebastian.huber

In [changeset:"f7eaf3167cf3e2ca4bc5ccc866fb0f24fefe1b4c/rtems" f7eaf316/rtems]:

```
1 bsp: Remove unused u-boot-generic-board-info.h
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T12:36:13.000Z

Original author: sebastian.huber

In [changeset:"1913eb16f6f8ce51154172f686a1ee66787695b9/rtems" 1913eb16/rtems]:

```
1 bsp/arm: Remove unused files
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-25T13:28:56.000Z

Original author: sebastian.huber

- **Milestone** changed from %"6.1" to %"5.1"

Author: Trac Migrate 2018-04-26T05:18:30.000Z

Original author: sebastian.huber

In [changeset:"0b60c5435109d877c350168d48bd102538810c07/rtems" 0b60c54/rtems]:


```
1 bsp/haleakala: Move assembler files to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-26T05:18:40.000Z

Original author: sebastian.huber

In [changeset:"b80be1355033e59de3cc3eab418a4b6dc66d4a83/rtems"
b80be135/rtems]:

```
1 bsp/psim: Move align_h.S to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-26T05:18:51.000Z

Original author: sebastian.huber

In [changeset:"3460c5228637b784edf68011d0e15d3f65517d61/rtems"
3460c522/rtems]:

```
1 bsp/powerpc: Move bsp-start-zero.S to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-26T05:19:02.000Z

Original author: sebastian.huber

In [changeset:"a5bf9b66b0748d34d25df7c2b20f4b5bc7670d70/rtems"
a5bf9b6/rtems]:

```
1 bsp/mips: Move liblnk to bsps
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-26T05:19:12.000Z

Original author: sebastian.huber

In [changeset:"1554415ee88eb0811cc606235678502a4bf866d2/rtems" 1554415/rtems]:

```
1 bsp/sparc64: Move asm.S to bsp and rename
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-26T05:19:23.000Z

Original author: sebastian.huber

In [changeset:"8eb264d34782f143e567f44737cd9879cb854410/rtems" 8eb264d3/rtems]:

```
1 bsp: Remove unmaintained times files
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-26T05:19:35.000Z

Original author: sebastian.huber

In [changeset:"eb36d1198cdf9dc1e2f776ef6e1e38755f6d13c5/rtems" eb36d11/rtems]:

```
1 bsp: Move documentation, etc. files to bsp
2
3 This patch is a part of the BSP source reorganization.
4
5 Update #3285.
```

Author: Trac Migrate 2018-04-27T10:50:26.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"cb0f55a4b829d9f2198b10c224a4ca626de7ded3/rtems-docs" cb0f55a/rtems-docs]:

```
1 Update due to BSP source reorganization
2
3 This patch is a part of the BSP source reorganization.
```

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4
5 Close #3285.

Author: Trac Migrate 2018-08-03T12:15:34.000Z

Original author: sebastian.huber

In [changeset:"32ccc016d88afb315db537ca46c5ed293bc83b4b/rtems" 32ccc01/rtems]:

1 bsp: Fix the generic IRQ support
2
3 The genmcf548x partly uses **is** own implementation of the interrupt
4 extension API **for** libbsd support.
5
6 This patch **is** a part of the BSP source reorganization.
7
8 Update #3285.

4.2.1.510 3475 - Add RTEMS_PREDICT_TRUE() and RTEMS_PREDICT_FALSE() for static branch prediction hints

Id	3475
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-07-24T06:51:56.000Z
Updated	2018-07-25T08:10:04.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3475
Merges	0

Original author: sebastian.huber

Add macros to <rtems/score/basedefs.h> for the GNU extension builtin_expect(). Use RTEMS_PREDICT_TRUE() and RTEMS_PREDICT_FALSE() similar to the FreeBSD predict_true() and predict_false(). Alternatives are the Linux likely() and unlikely() or directly the GCC builtin_expect(), however, the FreeBSD names seem to be the most easy to understand.

Author: Trac Migrate 2018-07-24T06:52:30.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 - Add macros to <rtems/score/basedefs.h> for the GNU extension __
   ↳ builtin_expect(). Use RTEMS_PREDICT_TRUE() and RTEMS_PREDICT_FALSE()
   ↳ similar to the FreeBSD __predict_true() and __predict_false().
   ↳ Alternatives are the Linux likely() and unlikely() or directly the
   ↳ GCC __builtin_expect(), however, the FreeBSD names seem to be the
   ↳ most easy to understand.
2 ?
   ↳
   ↳
   ↳
   ↳
3
4 + Add macros to <rtems/score/basedefs.h> for the GNU extension builtin_
   ↳ expect(). Use RTEMS_PREDICT_TRUE() and RTEMS_PREDICT_FALSE() similar
   ↳ to the FreeBSD predict_true() and predict_false(). Alternatives are
   ↳ the Linux likely() and unlikely() or directly the GCC builtin_
   ↳ expect(), however, the FreeBSD names seem to be the most easy to
   ↳ understand.

```

Author: Trac Migrate 2018-07-25T08:10:04.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"a1f7d7d430466fe66ead3155a9015ddde237fd44/rtems" a1f7d7d/rtems]:

```

1 score: RTEMS_PREDICT_TRUE(), RTEMS_PREDICT_FALSE()
2
3 Add RTEMS_PREDICT_TRUE() and RTEMS_PREDICT_FALSE() for static branch
4 prediction hints.
5
6 Close #3475.

```

4.2.1.511 3343 - pthread_mutex_getprioceiling() has incorrect prototype

Id	3343
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2018-03-14T22:34:01.000Z
Updated	2018-07-24T07:06:52.000Z
Milestone	5.1
Labels	api::posix, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3343
Merges	0

We are missing the `const` and `restrict` on the first parameter. This requires a change to `newlib` and `RTEMS`. The correct prototype is:

```
int pthread_mutex_getprioceiling( const pthread_mutex_t *restrict mutex, int *prioceiling )
```

Author: Joel Sherrill 2018-03-14T22:34:10.000Z

- **Owner** set to @joel

Author: Joel Sherrill 2018-03-20T18:45:55.000Z

Change pushed to `newlib`. I have a patch pending for `RTEMS` pending a tool bump.

Author: Trac Migrate 2018-07-06T05:27:12.000Z

In [changeset:"77fbbd620f3eb4aa54cccd3491a2feff955f7822/rtems" 77fbbd6/rtems]:

```
1 posix: Check for new <pthread.h> prototypes
2
3 Update #3342.
4 Update #3343.
```

Author: Trac Migrate 2018-07-24T07:06:52.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"dc6b9405ac33ddc29fc8e306fa23db33ec3d6672/rtems-source-builder" dc6b940/rtems-source-builder]:

```
1 5: Update Newlib
2
3 Update RISC-V GCC to a GCC 9 branch commit.
4
5 Close #3342.
6 Close #3343.
7 Update #3452.
```

4.2.1.512 3342 - pthread_setschedparam() has incorrect prototype

Id	3342
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Joel Sherrill
Created	2018-03-14T22:32:00.000Z
Updated	2018-07-24T07:06:52.000Z
Milestone	5.1
Labels	api::posix, priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3342
Merges	0

We are missing the `const` on the third parameter. This requires a change to newlib and RTEMS. The correct prototype is:

```
int pthread_setschedparam( pthread_t thread, int policy, const struct sched_param *param )
```

Author: Joel Sherrill 2018-03-14T22:32:12.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

Author: Joel Sherrill 2018-03-20T18:45:49.000Z

Change pushed to newlib. I have a patch pending for RTEMS pending a tool bump.

Author: Trac Migrate 2018-07-06T05:27:12.000Z

In [changeset:"77fbbd620f3eb4aa54cccd3491a2feff955f7822/rtems" 77fbbd6/rtems]:

```
1 posix: Check for new <pthread.h> prototypes
2
3 Update #3342.
4 Update #3343.
```

Author: Trac Migrate 2018-07-24T07:06:52.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"dc6b9405ac33ddc29fc8e306fa23db33ec3d6672/rtems-source-builder" dc6b940/rtems-source-builder]:

```

1 5: Update Newlib
2
3 Update RISC-V GCC to a GCC 9 branch commit.
4
5 Close #3342.
6 Close #3343.
7 Update #3452.

```

4.2.1.513 3471 - Update libfdt as of date 2018-07-09

Id	3471
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-07-18T07:30:59.000Z
Updated	2018-07-19T05:07:52.000Z
Milestone	5.1
Labels	library, priority::normal, resolution::fixed, tickettype::project, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3471
Merges	0

Original author: sebastian.huber

The initial import of libfdt was in 2015. Update it to the version as of date 2018-07-09.

Author: Trac Migrate 2018-07-19T05:07:26.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 - The initial import of libfdt was in 2015. Update it to the latest_
   ↪ version.
2 ?
3
4 + The initial import of libfdt was in 2015. Update it to the version as_
   ↪ of date 2018-07-09.
5 ?
   ↪ ++++++

```

- **Summary** changed from *Update libfdt to latest version* to *Update libfdt as of date 2018-07-09*

Author: Trac Migrate 2018-07-19T05:07:52.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”2af004eb0a6d815e48630a41e27a992b04d15988/rtems”
2af004e/rtems]:

```
1 dtc: Add VERSION file
2
3 Close #3471.
```

4.2.1.514 2751 - Thread dispatch via interrupt is broken at least on ARM and PowerPC

Id	2751
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2016-07-01T07:42:38.000Z
Updated	2018-06-29T09:58:41.000Z
Milestone	5.1
Labels	cpukit, priority::high, priority::normal, resolution::fixed, rtems::score, smp, tickettype::defect, version::4.11
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/2751
Merges	0

Original author: sebastian.huber

The ARM and PowerPC interrupt epilogues call `_Thread_Dispatch()` with interrupts disabled (counter example: SPARC).

On SMP configurations, since inter-processor interrupts set the thread dispatch necessary indicator this prevents a thread dispatch notification in post-switch handlers (which all run with interrupts disabled).

On all configurations, this is a serious issue for the interrupt latency.

Author: Trac Migrate 2016-07-01T09:58:45.000Z

Original author: sebastian.huber

In changeset 8d5b03802e99e581c360e9a2cf67856596ec824c:

score: Workaround for [#2751](#) The ARM and PowerPC interrupt epilogues call `_Thread_Dispatch()` with interrupts disabled (counter example: SPARC). On SMP configurations, since inter-processor interrupts set the thread dispatch necessary indicator this prevents a thread dispatch notification in post-switch handlers (which all run with interrupts disabled). On all configurations, this is a serious issue for the interrupt latency. Update [#2751](#)

Author: Trac Migrate 2016-11-18T06:59:42.000Z

Original author: sebastian.huber

In changeset d78d5294cd076b48160e12c2f52a940d783b4dac:

score: Add and use `_Thread_Dispatch_direct()` This function is useful for operations which synchronously block, e.g. self restart, self deletion, yield, sleep. It helps to detect if these operations are called in the wrong context. Since the thread dispatch necessary indicator is not used, this is more robust in some SMP situations. Update [#2751](#).

Author: Trac Migrate 2016-11-18T07:02:28.000Z

Original author: sebastian.huber

In changeset 2072dd242f269ca7d3d14b8f4e2830f15e85e555:

score: Add `Per_CPU_Control::isr_dispatch_disable` Update [#2751](#).

Author: Trac Migrate 2016-11-18T07:03:06.000Z

Original author: sebastian.huber

In changeset c11ac2d59dce04b189948dd851b1f1eb6f9a4a52:

sparc: Use `Per_CPU_Control::isr_dispatch_disable` Update [#2751](#).

Author: Trac Migrate 2016-11-18T07:03:44.000Z

Original author: sebastian.huber

In changeset d59585db26ea30d23a0d112212cf4b42d01e73fc:

arm: Use `Per_CPU_Control::isr_dispatch_disable` Update [#2751](#).

Author: Trac Migrate 2016-11-18T07:03:56.000Z

Original author: sebastian.huber

In changeset 7ce60b378dcf732e1467dcb7664a94824ac608c7:

powerpc: Use `Per_CPU_Control::isr_dispatch_disable` Update [#2751](#).

Author: Trac Migrate 2016-11-21T12:16:16.000Z

Original author: sebastian.huber

In changeset 4e2bc0a308104d96b60d8af1a0c5bcff99fe1564:

arm: Fix Thumb-1 targets We cannot use the MRS or MSR instructions in Thumb-1 mode. Stay in ARM mode for the Thumb-1 targets during interrupt low-level processing. Update [#2751](#).

Author: Trac Migrate 2016-11-23T11:53:10.000Z

Original author: sebastian.huber

In changeset 1d18a9027d04625306d08c4971a7735ce4b7e9f7:

arm: Fix `_ARMV4_Exception_interrupt` Use the right register to determine if a thread dispatch is allowed and necessary. Update [#2751](#).

Author: Trac Migrate 2016-11-24T08:13:18.000Z

Original author: sebastian.huber

In changeset 4b5ff47d159872ef9e1096713fd68367f4640576:

score: Fix interrupt profiling Callers of `_Thread_Do_dispatch()` must have a valid `Per_CPU_Control::Stats::thread_dispatch_disabled_instant`. Call `_Profiling_Outer_most_interrupt_entry_and_exit()` with the interrupt stack to not exceed `Per_CPU_Control::Interrupt_frame`. Update [#2751](#).

Author: Trac Migrate 2016-12-02T12:56:59.000Z

Original author: sebastian.huber

In changeset f65dcc712ab7ff1fb36da4254b4383f4fc5eb459:

score: Fix ARM and PowerPC context initialization Update [#2751](#).

Author: Trac Migrate 2016-12-23T14:10:09.000Z

Original author: sebastian.huber

- **Priority** changed from `~"normal"` to `~"high"`

Author: Trac Migrate 2017-01-24T08:45:03.000Z

Original author: sebastian.huber

- **Resolution** set to `~"fixed"`
- **Status** changed from *new* to *closed*

In changeset 436a4b384b70b4b050d5c5967c169a2b79f90042:

smptests/smpsignal01: Check signal ISR level Close [#2751](#).

Author: Trac Migrate 2017-03-28T08:34:46.000Z

Original author: sebastian.huber

In [changeset:"cd3d74793a4e2ec93cefdddb855d4536d44c7e64/rtems" cd3d747/rtems]:

```

1 arm: Optimize context switch
2
3 Set CPU_ENABLE_ROBUST_THREAD_DISPATCH to TRUE. In this case the
4 interrupts are always enabled during a context switch even after
5 interrupt processing (see #2751). Remove the CPSR from the context
6 control since it contains only volatile bits.
7
8 Close #2954.
```

Author: Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

Author: Trac Migrate 2017-05-23T08:05:22.000Z

Original author: sebastian.huber

In [changeset:"d5c8756660808bd1a330fd32c07a5ce9d63169bd/rtems" d5c8756/rtems]:

```

1 arm: Fix profiling support of Thumb-1 targets
2
3 Update #2751.
```

Author: Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

Author: Trac Migrate 2018-06-29T09:58:41.000Z

Original author: sebastian.huber

In [changeset:"9704d86f86c5a800a06dd814538df4cd83367fc5/rtems" 9704d86f/rtems]:

```

1 riscv: Enable interrupts during dispatch after ISR
2
3 The code sequence is derived from the ARM code
4 (see _ARMV4_Exception_interrupt).
5
```

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6 Update #2751.
7 Update #3433.

4.2.1.515 3444 - Remove nios2gen program

Id	3444
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-06-07T05:05:52.000Z
Updated	2018-06-29T09:55:38.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3444
Merges	0

Original author: sebastian.huber

Rename it to rtems-nios2gen

Author: Trac Migrate 2018-06-13T07:49:19.000Z

Original author: sebastian.huber

- **Summary** changed from *Move nios2gen to rtems-tools* to *Remove nios2gen program*

After discussion on devel@rtems.org it was decided to remove this program due to its license (RTEMS GPL).

Author: Trac Migrate 2018-06-15T05:15:39.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"46c2da693c209e1004e69abc7aea0752ef249940/rtems"46c2da6/rtems]:

```
1 tools: Remove nios2gen
2
3 All tools should be removed from the RTEMS source repository at some
4 point in time. Tools with a BSD-style license will be moved to the
5 RTEMS tools repository. Unfortunately, the this tool is RTEMS GPL
6 licensed.
7
```

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```

8 If users of this tool still exist, they can reimplement the
9 functionality using a BSD-style license and add it to the RTEMS tools.
10
11 Close #3444.

```

Author: Trac Migrate 2018-06-29T09:55:38.000Z

Original author: sebastian.huber

In [changeset:"380243627b4043227cbc2fc0803b20d2a09e6490/rtems" 38024362/rtems]:

```

1 bsp/riscv: Fix some warnings
2
3 Update #3444.

```

4.2.1.516 3320 - Add a simple task console driver

Id	3320
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-03-06T07:07:36.000Z
Updated	2018-06-29T09:53:37.000Z
Milestone	5.1
Labels	device::serial, priority::normal, resolution::fixed, ticket-type::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3320
Merges	0

Original author: sebastian.huber

The default console driver for tests is the simple console driver. It uses a polled output via `rtems_putc()` done directly in the context of the executing thread. This is a problem for timing sensitive tests. Add a simple task console driver.

```

1 .. index:: CONFIGURE_APPLICATION_NEEDS_SIMPLE_TASK_CONSOLE_DRIVER
2
3 .. _CONFIGURE_APPLICATION_NEEDS_SIMPLE_TASK_CONSOLE_DRIVER:
4
5 CONFIGURE_APPLICATION_NEEDS_SIMPLE_TASK_CONSOLE_DRIVER
6 -----
7
8 CONSTANT:
9 ``CONFIGURE_APPLICATION_NEEDS_SIMPLE_TASK_CONSOLE_DRIVER``
10
11 DATA TYPE:

```

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```

12 Boolean feature macro.
13
14 RANGE:
15 Defined or undefined.
16
17 DEFAULT VALUE:
18 This is not defined by default.
19
20 DESCRIPTION:
21 ``CONFIGURE_APPLICATION_NEEDS_SIMPLE_TASK_CONSOLE_DRIVER`` is defined if
22 the application wishes to include the Simple Task Console Device Driver.
23
24 NOTES:
25 This device driver is responsible for providing the :file:`/dev/console`
26 device file. This device is used to initialize the standard input, output,
27 and error file descriptors.
28
29 This device driver reads via ``getchark()``.
30
31 This device driver writes into a write buffer. The count of characters
32 written into the write buffer is returned. It might be less than the
33 requested count, in case the write buffer is full. The write is
34 non-blocking and may be called from interrupt context. A dedicated task
35 reads from the write buffer and outputs the characters via
36 ``rtems_putc()``. This task runs with the least important priority. The
37 write buffer size is 2047 characters and it is not configurable.
38
39 Use ``fsync(STDOUT_FILENO)`` or ``fdatsync(STDOUT_FILENO)`` to drain the
40 write buffer.
41
42 The Termios framework is not used. There is no support to change device
43 settings, e.g. baud, stop bits, parity, etc.
44
45 The
46
47 * ``CONFIGURE_APPLICATION_NEEDS_CONSOLE_DRIVER``,
48
49 * ``CONFIGURE_APPLICATION_NEEDS_SIMPLE_CONSOLE_DRIVER``, and
50
51 * ``CONFIGURE_APPLICATION_NEEDS_SIMPLE_TASK_CONSOLE_DRIVER``
52
53 configuration options are mutually exclusive.

```

Author: Trac Migrate 2018-03-06T10:46:54.000Z

Original author: sebastian.huber

In [changeset:"f6c6c8b274f96d2e4d67bcfe9a4d843dee2f2b71/rtems-docs"
f6c6c8b/rtems-docs]:

```

1 CONFIGURE_*_SIMPLE_TASK_CONSOLE_DRIVER
2
3 Update #3320.

```

Author: Trac Migrate 2018-03-06T11:32:27.000Z

Original author: sebastian.huber

- **Owner** set to Sebastian Huber <sebastian.huber@embedded-brains.de>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"337a1869092779be0afca381dba674d3de4d7c9b/rtems" 337a186/rtems]:

```

1 Add a simple task console driver
2
3 Close #3320.

```

Author: Trac Migrate 2018-06-29T09:53:37.000Z

Original author: sebastian.huber

In [changeset:"196ce1859a0d2b41f33c6a2ff5b7523a96a6aabc/rtems" 196ce18/rtems]:

```

1 console: Add missing return status
2
3 Update #3320.

```

4.2.1.517 3461 - Canadian cross compilation of RTEMS tools not supported for x86_64-w64-mingw32

Id	3461
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-06-19T10:12:15.000Z
Updated	2018-06-19T10:22:54.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3461
Merges	0

Original author: sebastian.huber

Author: Trac Migrate 2018-06-19T10:13:48.000Z

Original author: sebastian.huber

In [changeset:"2149755543e40bfceec23a5611af5391a3580106/rtems-source-builder" 2149755/rtems-source-builder]:

```
1 Fix CXC compilation of RTEMS tools
2
3 Update #3461.
```

Author: Trac Migrate 2018-06-19T10:17:47.000Z

Original author: sebastian.huber

In [changeset:"845054a2ac1f470c5dd79361646be0243bb91160/rtems-tools" 845054a/rtems-tools]:

```
1 Fix CXC build for x86-w64-mingw32
2
3 Update #3461.
```

Author: Trac Migrate 2018-06-19T10:22:54.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"9e95b79989a35befdef1ea363018878298ba4d88/rtems-source-builder" 9e95b79/rtems-source-builder]:

```
1 5: Update tools for CXC x86_64-w32-mingw32 support
2
3 Close #3461.
```

4.2.1.518 3455 - Remove install-if-change script

Id	3455
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-06-15T05:40:58.000Z
Updated	2018-06-18T05:12:45.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3455
Merges	0

Original author: sebastian.huber

The last installed tool in RTEMS repository is the install-if-change script. This script does the same as the standard “install” program with an additional feature to install variants via the -V command line option.

This script is used by the standard Makefile support:

```
c/src/make/host.cfg.in:INSTALL_CHANGE=$(PROJECT_BIN)/install-if-change
```

The INSTALL_CHANGE is used by:

```
c/src/make/host.cfg.in:ifndef INSTALL_CHANGE c/src/make/host.cfg.in:INSTALL_CHANGE=$(PROJECT_BIN)
if-change c/src/make/host.cfg.in:INSTALL_VARIANT=$(INSTALL_CHANGE) -V
“$(LIB_VARIANT)”
```

Is the variant stuff still supported?

I would remove the support for it and replace the “install-if-change” script with the standard “install” program.

Author: Trac Migrate 2018-06-15T06:22:33.000Z

Original author: sebastian.huber

The script has no license information.

Author: Joel Sherrill 2018-06-15T06:40:12.000Z

Original author: sebastian.huber

Remove it and uses on technical grounds. The remaining use isn’t enough to even make the lack of license a factor.

Author: Trac Migrate 2018-06-18T05:12:45.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”bac8d934189c02635cca752d36dce1fdad6338b8/rtems”
bac8d934/rtems]:

```
1 tools: Remove install-if-change program
2
3 The last installed tool in RTEMS repository is the install-if-change
4 script. It is not used to build/install BSPs. This script does the
5 same as the standard "install" program with an additional feature to
6 install variants via the -V command line option.
7
8 This script is used by the standard Makefile support:
9
```

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```

10 c/src/make/host.cfg.in:INSTALL_CHANGE=$(PROJECT_BIN)/install-if-change
11
12 The INSTALL_CHANGE is used by:
13
14 c/src/make/host.cfg.in:ifndef INSTALL_CHANGE
15 c/src/make/host.cfg.in:INSTALL_CHANGE=$(PROJECT_BIN)/install-if-change
16 c/src/make/host.cfg.in:INSTALL_VARIANT=$(INSTALL_CHANGE) -V
17 "$(LIB_VARIANT)"
18
19 Remove the support for variant installation and instead use the standard
20 "install" program. This breaks application Makefiles using the standard
21 Makefile support of RTEMS.
22
23 Close #3455.

```

4.2.1.519 3379 - Remove packhex program

Id	3379
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-03-27T06:08:39.000Z
Updated	2018-06-15T05:42:25.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3379
Merges	0

Original author: sebastian.huber

The packhex program (tools/build/packhex.c) is exported to the standard RTEMS build infrastructure via the PACKHEX variable. It is used by some legacy BSPs. It as unclear license information:

```

1 /***** P A C K H E X . C *****/
2 *
3 * Packhex is a hex-file compaction utility. It attempts to concatenate
4 * hex records to produce more size-efficient packaging.
5 *
6 * Limitations: Input files must be correctly formatted. This utility
7 * is not robust enough to detect hex-record formatting
8 * errors.
9 *
10 * Published: May 1993 Embedded Systems Programming magazine
11 * "Creating Faster Hex Files"
12 *
13 * URL: ESP magazine: http://www.embedded.com
14 * Source Code: ftp://ftp.mfi.com/pub/espmag/1993/pakhex.zip

```

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```

15 *
16 *   Author:      Mark Gringrich
17 *
18 *   Compiler:    Microsoft C 6.0
19 *                cl /F 1000 packhex.c
20 *
21 *****/

```

Move it to rtems-tools.

Author: Chris Johns 2018-04-26T02:40:11.000Z

Original author: sebastian.huber

OK to remove.

Author: Trac Migrate 2018-06-07T05:03:34.000Z

Original author: sebastian.huber

- **Summary** changed from *Move unhex program to rtems-tools* to *Move packhex program to rtems-tools*

Author: Trac Migrate 2018-06-14T09:45:24.000Z

Original author: sebastian.huber

- **Summary** changed from *Move packhex program to rtems-tools* to *Remove packhex program*

This program has no license information and is unused in the RTEMS build. Users of HEX files should consider to use ELF instead. Remove it.

Author: Trac Migrate 2018-06-15T05:17:12.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"e8b28ba0047c533b842f9704c95d0e76dcb16cbf/rtems" e8b28ba/rtems]:

```
1 tools: Remove packhex
```

```
2
```

```
3 All tools should be removed from the RTEMS source repository at some
4 point in time. Tools with a BSD-style license will be moved to the
5 RTEMS tools repository. Unfortunately, this tool has no license
```

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```

6 information.
7
8 Remove all uses of this tool from the code base. Users of HEX files
9 should consider to use ELF instead.
10
11 Close #3379.

```

Author: Joel Sherrill 2018-06-15T05:27:50.000Z

Original author: sebastian.huber

Users of this tool cannot use ELF because this is used with boards where you must download in hex formats.

Author: Chris Johns 2018-06-15T05:42:25.000Z

Original author: sebastian.huber

Replying to **Joel Sherrill**:

Users of this tool cannot use ELF because this is used with boards where you must download in hex formats.

If you logically extend this should we support all possible formats users can download? I suggest we do not.

The code is available for users to integrate into their workflow.

4.2.1.520 3447 - Remove rtems-testsuite-autostuff script

Id	3447
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-06-07T06:12:51.000Z
Updated	2018-06-15T05:17:02.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3447
Merges	0

Original author: sebastian.huber

It is not used.

Author: Trac Migrate 2018-06-15T05:17:02.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"df7f0ac6c00de15ea6fa383c5dd09894fc90a722/rtems" df7f0ac6/rtems]:

```
1 tools: Remove rtems-testsuite-autostuff
2
3 It is not used.
4
5 Close #3447.
```

4.2.1.521 3446 - Remove cvsignore-add.sh script

Id	3446
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-06-07T05:54:34.000Z
Updated	2018-06-15T05:16:52.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3446
Merges	0

Original author: sebastian.huber

This script is obsolete since moving to Git.

Author: Trac Migrate 2018-06-15T05:16:52.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"a94a0f5ff96256ceedb621ef6a3c9adc2c68098a/rtems" a94a0f5/rtems]:

```
1 tools: Remove cvsignore-add.sh
2
3 This script is obsolete since moving to Git.
4
5 Close #3446.
```

4.2.1.522 3445 - Remove multigen script

Id	3445
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-06-07T05:52:26.000Z
Updated	2018-06-15T05:16:42.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3445
Merges	0

Original author: sebastian.huber

This script is unused and out dated.

Author: Trac Migrate 2018-06-15T05:16:42.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1346d272556e7273d6b6bbaef02cff988b84aa4e/rtems" 1346d27/rtems]:

```

1 tools: Remove multigen
2
3 This script is unused and out dated.
4
5 Close #3445.
```

4.2.1.523 3378 - Remove unhex program

Id	3378
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-03-27T05:57:58.000Z
Updated	2018-06-15T05:16:31.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3378
Merges	0

Original author: sebastian.huber

The unhex program (tools/build/unhex.c) has no license information and is unused in the RTEMS build. Users of HEX files should consider to use ELF instead. Remove it.

Author: Chris Johns 2018-04-26T02:39:59.000Z

Original author: sebastian.huber

OK to remove.

Author: Trac Migrate 2018-06-15T05:16:31.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"31f0eb9e9e094f13ff36f9e75445a858a1fc56ba/rtems" 31f0eb9e/rtems]:

```
1 tools: Remove unhex
2
3 This program has no license information and is unused in the RTEMS
4 build. Users of HEX files should consider to use ELF instead. Remove
5 it.
6
7 Close #3378.
```

4.2.1.524 3377 - Remove eolstrip program

Id	3377
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-03-27T05:52:26.000Z
Updated	2018-06-15T05:16:21.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3377
Merges	0

Original author: sebastian.huber

The eolstrip program (tools/build/eolstrip.c) has no license information and is unused in the RTEMS build. General usability is questionable, for example a

```
1 sed -i 's/[[:space:]]*$//' file
```

performs a similar task. Remove it.

Author: Chris Johns 2018-04-26T02:39:48.000Z

Original author: sebastian.huber

OK to remove.

Author: Trac Migrate 2018-06-15T05:16:21.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"64fa76bb837c4b5b3472ebd17c8151b81703800c/rtems" 64fa76bb/rtems]:

```
1 tools: Remove eolstrip
2
3 This program has no license information and is unused in the RTEMS
4 build. General usability is questionable, for example a
5
6 sed -i 's/[[[:space:]]*$// ' file
7
8 performs a similar task. Remove it.
9
10 Close #3377.
```

4.2.1.525 3376 - Remove cklength program

Id	3376
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-03-27T05:47:55.000Z
Updated	2018-06-15T05:16:11.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3376
Merges	0

Original author: sebastian.huber

The cklength program (tools/build/cklength.c) has no license information and is unused in the RTEMS build. General usability is questionable, for example a

```
1 awk 'length($0) > 80' < file
```

performs a similar task. Remove it.

Author: Chris Johns 2018-04-26T02:39:38.000Z

Original author: sebastian.huber

OK to remove.

Author: Trac Migrate 2018-06-15T05:16:11.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"f4fee72bb02f43ba009ae12130b931f6266d9f66/rtems" f4fee72b/rtems]:

```

1 tools: Remove cklength
2
3 This program has no license information and is unused in the RTEMS
4 build. General usability is questionable, for example a
5
6 awk 'length($0) > 80' < file
7
8 performs a similar task. Remove it.
9
10 Close #3376.
```

4.2.1.526 3380 - Move rtems-bin2c program to rtems-tools

Id	3380
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-03-27T06:12:10.000Z
Updated	2018-06-15T05:16:00.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3380
Merges	0

Original author: sebastian.huber

The rtems-bin2c program (tools/build/rtems-bin2c.c) is exported to the standard RTEMS build infrastructure via the BIN2C variable. Move it to rtems-tools.

Author: Chris Johns 2018-04-26T02:40:24.000Z

Original author: sebastian.huber

OK to move.

Author: Trac Migrate 2018-06-15T05:04:57.000Z

Original author: sebastian.huber

In [changeset:"1cd75c4952ee0b546e5c6cf2bf783f9b8281339f/rtems-tools" 1cd75c4/rtems-tools]:

```
1 bin2c: Import from RTEMS
2
3 Corresponding RTEMS commit is 75933d5d25cd50f80162b7a0d2f66a5534e1763f.
4
5 Update #3380.
```

Author: Trac Migrate 2018-06-15T05:05:04.000Z

Original author: sebastian.huber

In [changeset:"1a89c3d78900e8c4d60afcf9978aa2f283121320/rtems-tools" 1a89c3d/rtems-tools]:

```
1 bin2c: Fix warnings
2
3 Update #3380.
```

Author: Trac Migrate 2018-06-15T05:12:37.000Z

Original author: sebastian.huber

In [changeset:"528ee187eaa7f9d59a92c98618db10acd09adb10/rtems-source-builder" 528ee18/rtems-source-builder]:

```
1 5: Update tools to ship rtems-bin2c
2
3 Update #3380.
```

Author: Trac Migrate 2018-06-15T05:16:00.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"ea092ccc798b820ebe5505a0b1f1cc65fbb80bac/rtems" ea092ccc/rtems]:

```

1 tools: Remove rtems-bin2c
2
3 This tool is now included in the RTEMS tools repository.
4
5 Close #3380.

```

4.2.1.527 3451 - Remove size_rtems script

Id	3451
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-06-13T07:52:21.000Z
Updated	2018-06-15T05:15:50.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3451
Merges	0

Original author: sebastian.huber

This script is horribly out of date. A new version could be placed in RTEMS tools if necessary.

Author: Joel Sherrill 2018-06-13T08:17:24.000Z

Original author: sebastian.huber

I don't disagree with removing this. The question this script is trying to answer is "what's the code space requirement for RTEMS?" This is usually asked as "How big is RTEMS?" The answer is that it depends.

This script produced a report similar to some other RTOS when it was written. But I evolved to think that the linked size of sample reference applications like base_sp, minimum, hello, minimum networking, etc.

A real application will vary in size based on the set of services it uses. Often those services depends on things that add code which we wouldn't consider part of RTEMS. A C++ application with megabytes of code from the C++ Standard Library is large but may use a very small but of code from RTEMS itself. The Qt demos were similar.

Also size varies by architecture, optimization level, gcc version, function section linking, etc.

There is no single answer and no standard guides. So we need to decide what we think is useful, explain it, and watch it.

Author: Trac Migrate 2018-06-15T05:15:50.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”9eb1494fc1c2f81abbc2b711bebbce9d28064289/rtems”
9eb1494f/rtems]:

```
1 tools: Remove size_rtems
2
3 This script is horribly out of date. A new version could be placed in
4 RTEMS tools if necessary.
5
6 Close #3451.
```

4.2.1.528 3453 - Add RISC-V GDB

Id	3453
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-06-13T08:43:25.000Z
Updated	2018-06-13T08:47:35.000Z
Milestone	5.1
Labels	arch:riscv, priority::normal, resolution::fixed, tickettype::enhancement, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3453
Merges	0

Original author: sebastian.huber

Author: Trac Migrate 2018-06-13T08:47:20.000Z

Original author: sebastian.huber

In [changeset:”d8daad23f4d9ed8fb1ac53614cdf01aa4424ebe2/rtems-source-builder” d8daad2/rtems-source-builder]:

```
1 Build only the GDB
2
3 The Binutils and GDB share a repository. In order to build the GDB
4 from a repository snapshot some components must be disabled.
5
6 Update #3453.
```

Author: Trac Migrate 2018-06-13T08:47:35.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”

- **Status** changed from *assigned* to *closed*

In [changeset:"8ef0d7394ce995f4c8243984b808bd96b56db2a2/rtems-source-builder" 8ef0d73/rtems-source-builder]:

```

1 5: Add GDB for RISC-V
2
3 Mainline GDB support for RISC-V is not yet in a released GDB version.
4
5 Close #3453.
```

4.2.1.529 3443 - Remove shgen program

Id	3443
State	closed
Type	ISSUE
Author	Trac Migrate
Assignee(s)	Trac Migrate
Created	2018-06-07T05:05:07.000Z
Updated	2018-06-13T07:58:18.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::task, tool, version::5
Link	https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3443
Merges	0

Original author: sebastian.huber

Rename it to rtems-shgen.

Author: Trac Migrate 2018-06-13T07:47:32.000Z

Original author: sebastian.huber

- **Summary** changed from *Move shgen to rtems-tools* to *Remove shgen*

After discussion on devel@rtems.org it was decided to remove this tool due to its license (GPL).

Author: Trac Migrate 2018-06-13T07:48:12.000Z

Original author: sebastian.huber

- **Summary** changed from *Remove shgen* to *Remove shgen program*

Author: Trac Migrate 2018-06-13T07:58:18.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"8c62cf4209b2fe57fdb3a138f2c644e19774367/rtems" 8c62cf4/rtems]:

```

1 tools: Remove shgen
2
3 All tools should be removed from the RTEMS source repository at some
4 point in time. Tools with a BSD-style license will be moved to the RTEMS
5 tools repository. Unfortunately, the shgen tool is GPL licensed.
6
7 Remove all uses of this tool from the code base. Replace generated files
8 with stub functions. If users of this BSP still exist, they can
9 reimplement the functionality using a BSD-style license.
10
11 Close #3443.

```

4.2.1.530 3425 - examples-v2: PowerPC fails to build fat_ramdisk

Id	3425
State	closed
Type	ISSUE
Author	Joel Sherrill
Assignee(s)	Trac Migrate
Created	2018-05-01T14:57:39.000Z
Updated	2018-06-11T12:48:21.000Z
Milestone	5.1
Labels	priority::normal, resolution::fixed, tickettype::defect, version::5
Link	https://gitlab.rtems.org/rtems/rtems/-/issues/3425
Merges	0

beatnik, gwlcfm, haleakala, mpc5566evb, mpc5566evb_spe, mpc5566evb_spe, mpc5643l_evb, mpc5668g, mpc5674f_ecu508_app, mpc5674f_ecu508_boot, mpc5674fevb, mpc5674fevb_spe, mpc5674f_rsm6, mvme3100, mvme3100, phycore_mpc5554, qemuuprep-altivec, qemuuprep

```

1 [5/7] Compiling build/powerpc-rtems5-beatnik/filesystem/fat_ramdisk/fs-root.tar
2 In file included from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/
3 ↪lib/include/libcpu/powerpc-utility.h:40:0,
4 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/bsp/
5 ↪vectors.h:40,
6 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/bsp.
7 ↪h:27,
8 from ../../gdb/overwrite/rtems_init.c:7:
9 /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/rtems/
10 ↪powerpc/powerpc.h:283:2: error: #error "Unsupported CPU Model"
11 #error "Unsupported CPU Model"

```

~~~~~

```

10 In file included from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/
11 ↪lib/include/libcpu/powerpc-utility.h:40:0,
12 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/bsp/
13 ↪vectors.h:40,

```

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```

12 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/bsp.
    ↳h:27,
13 from ../../hello/hello_world_c/test.c:21:
14 /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/rtems/
    ↳powerpc/powerpc.h:283:2: error: #error "Unsupported CPU Model"
15 #error "Unsupported CPU Model"
16 ^~~~~
17
18 Waf: Leaving directory `/data/home/joel/rtems-work/examples-v2/build/powerpc-
    ↳rtems5-beatnik'
19 Build failed

```

**Author:** Chris Johns 2018-05-02T00:38:16.000Z

- **Description** changed

```

1 beatnik, gwlcfm, haleakala, mpc5566evb, mpc5566evb_spe, mpc5566evb_spe,
    ↳mpc5643l_evb, mpc5668g, mpc5674f_ecu508_app, mpc5674f_ecu508_boot,
    ↳mpc5674fevb, mpc5674fevb_spe, mpc5674f_rsm6, mvme3100, mvme3100,
    ↳phycore_mpc5554, qemuprep-altivec, qemuprep
2 -
3 + {{{
4 [5/7] Compiling build/powerpc-rtems5-beatnik/filesystem/fat_ramdisk/fs-
    ↳root.tar
5 In file included from /home/joel/rtems-work/bsp-install//powerpc-rtems5/
    ↳beatnik/lib/include/libcpu/powerpc-utility.h:40:0,
6 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/
    ↳include/bsp/vectors.h:40,
7 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/
    ↳include/bsp.h:27,
8 from ../../gdb/overwrite/rtems_init.c:7:
9 /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/
    ↳rtems/powerpc/powerpc.h:283:2: error: #error "Unsupported CPU Model"
10 #error "Unsupported CPU Model"
11 ^~~~~
12
13 In file included from /home/joel/rtems-work/bsp-install//powerpc-rtems5/
    ↳beatnik/lib/include/libcpu/powerpc-utility.h:40:0,
14 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/
    ↳include/bsp/vectors.h:40,
15 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/
    ↳include/bsp.h:27,
16 from ../../hello/hello_world_c/test.c:21:
17 /home/joel/rtems-work/bsp-install//powerpc-rtems5/beatnik/lib/include/
    ↳rtems/powerpc/powerpc.h:283:2: error: #error "Unsupported CPU Model"
18 #error "Unsupported CPU Model"
19 ^~~~~
20

```

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```

21 Waf: Leaving directory `/data/home/joel/rtems-work/examples-v2/build/
    ↳ powerpc-rtems5-beatnik'
22 Build failed
23 + }}}

```

Please run with `-v` and have a look at the command line and compare it to a similar compile in the testsuite? Is there something in the BSP configuration that is not being set in the BSP's `pkg-config` file?

**Author:** Joel Sherrill 2018-05-02T17:09:51.000Z

From `waf -v`

```

1 [1/7] Compiling hello/hello_world_c/test.c
2 12:04:58 runner ['/home/joel/rtems-work/tools/5/bin/powerpc-rtems5-gcc',
    ↳ '-qrtems', '-B/home/joel/rtems-work/bsp-install//powerpc-rtems5/lib/
    ↳ ', '-B/home/joel/rtems-work/bsp-install//powerpc-rtems5/mpc5566evb/
    ↳ lib/', '--specs', 'bsp_specs', '-mcpu=8540', '-mcpu=8540', '-meabi',
    ↳ '-meabi', '-msdata=sysv', '-msdata=sysv', '-fno-common', '-fno-common
    ↳ ', '-msoft-float', '-msoft-float', '-mno-spe', '-mno-spe', '-mstrict-
    ↳ align', '-mstrict-align', '-fno-keep-inline-functions', '-fno-keep-
    ↳ inline-functions', '-ffunction-sections', '-ffunction-sections', '-
    ↳ fdata-sections', '-fdata-sections', '-O2', '-g', '-DHAVE_RTEMS_SCORE_
    ↳ CPUOPTS_H=1', '-DHAVE_RTEMS_H=1', '../../hello/hello_world_c/test.c',
    ↳ '-c', '-o/data/home/joel/rtems-work/examples-v2/build/powerpc-rtems5-
    ↳ mpc5566evb/hello/hello_world_c/test.c.1.o']
3 [2/7] Compiling gdb/overwrite/rtems_init.c
4 12:04:58 runner ['/home/joel/rtems-work/tools/5/bin/powerpc-rtems5-gcc',
    ↳ '-qrtems', '-B/home/joel/rtems-work/bsp-install//powerpc-rtems5/lib/
    ↳ ', '-B/home/joel/rtems-work/bsp-install//powerpc-rtems5/mpc5566evb/
    ↳ lib/', '--specs', 'bsp_specs', '-mcpu=8540', '-mcpu=8540', '-meabi',
    ↳ '-meabi', '-msdata=sysv', '-msdata=sysv', '-fno-common', '-fno-common
    ↳ ', '-msoft-float', '-msoft-float', '-mno-spe', '-mno-spe', '-mstrict-
    ↳ align', '-mstrict-align', '-fno-keep-inline-functions', '-fno-keep-
    ↳ inline-functions', '-ffunction-sections', '-ffunction-sections', '-
    ↳ fdata-sections', '-fdata-sections', '-O2', '-g', '-DHAVE_RTEMS_SCORE_
    ↳ CPUOPTS_H=1', '-DHAVE_RTEMS_H=1', '../../gdb/overwrite/rtems_init.c',
    ↳ '-c', '-o/data/home/joel/rtems-work/examples-v2/build/powerpc-rtems5-
    ↳ mpc5566evb/gdb/overwrite/rtems_init.c.1.o']
5 In file included from /home/joel/rtems-work/bsp-install//powerpc-rtems5/
    ↳ mpc5566evb/lib/include/libcpu/powerpc-utility.h:40:0,
6 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/mpc5566evb/lib/
    ↳ include/bsp.h:39,
7 from ../../hello/hello_world_c/test.c:21:
8 /home/joel/rtems-work/bsp-install//powerpc-rtems5/mpc5566evb/lib/
    ↳ include/rtems/powerpc/powerpc.h:283:2: error: #error "Unsupported CPU_
    ↳ Model"
9 #error "Unsupported CPU Model"
10 ^~~~~

```

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```

11
12 In file included from /home/joel/rtems-work/bsp-install//powerpc-rtems5/
13 ↪mpc5566evb/lib/include/libcpu/powerpc-utility.h:40:0,
14 from /home/joel/rtems-work/bsp-install//powerpc-rtems5/mpc5566evb/lib/
15 ↪include/bsp.h:39,
16 from ../../gdb/overwrite/rtems_init.c:7:
17 /home/joel/rtems-work/bsp-install//powerpc-rtems5/mpc5566evb/lib/
18 ↪include/rtems/powerpc/powerpc.h:283:2: error: #error "Unsupported CPU_
19 ↪Model"
20 #error "Unsupported CPU Model"
21 ^~~~~
22
23 Waf: Leaving directory `/data/home/joel/rtems-work/examples-v2/build/
24 ↪powerpc-rtems5-mpc5566evb'
25 Build failed
26 -> task in 'hello.exe' failed with exit status 1:
27 {task 21579488: c test.c -> test.c.1.o}
28 ['/home/joel/rtems-work/tools/5/bin/powerpc-rtems5-gcc', '-qrtems', '-B/
29 ↪home/joel/rtems-work/bsp-install//powerpc-rtems5/lib/', '-B/home/joel/
30 ↪rtems-work/bsp-install//powerpc-rtems5/mpc5566evb/lib/', '--specs',
31 ↪'bsp_specs', '-mcpu=8540', '-mcpu=8540', '-meabi', '-meabi', '-
32 ↪msdata=sysv', '-msdata=sysv', '-fno-common', '-fno-common', '-msoft-
33 ↪float', '-msoft-float', '-mno-spe', '-mno-spe', '-mstrict-align', '-
34 ↪mstrict-align', '-fno-keep-inline-functions', '-fno-keep-inline-
35 ↪functions', '-ffunction-sections', '-ffunction-sections', '-fdata-
36 ↪sections', '-fdata-sections', '-O2', '-g', '-DHAVE_RTEMS_SCORE_
37 ↪CPUOPTS_H=1', '-DHAVE_RTEMS_H=1', '../../hello/hello_world_c/test.c',
38 ↪'-c', '-o/data/home/joel/rtems-work/examples-v2/build/powerpc-rtems5-
39 ↪mpc5566evb/hello/hello_world_c/test.c.1.o']
40 -> task in 'overwrite.exe' failed with exit status 1:
41 {task 21579848: c rtems_init.c -> rtems_init.c.1.o}
42 ['/home/joel/rtems-work/tools/5/bin/powerpc-rtems5-gcc', '-qrtems', '-B/
43 ↪home/joel/rtems-work/bsp-install//powerpc-rtems5/lib/', '-B/home/joel/
44 ↪rtems-work/bsp-install//powerpc-rtems5/mpc5566evb/lib/', '--specs',
45 ↪'bsp_specs', '-mcpu=8540', '-mcpu=8540', '-meabi', '-meabi', '-
46 ↪msdata=sysv', '-msdata=sysv', '-fno-common', '-fno-common', '-msoft-
47 ↪float', '-msoft-float', '-mno-spe', '-mno-spe', '-mstrict-align', '-
48 ↪mstrict-align', '-fno-keep-inline-functions', '-fno-keep-inline-
49 ↪functions', '-ffunction-sections', '-ffunction-sections', '-fdata-
50 ↪sections', '-fdata-sections', '-O2', '-g', '-DHAVE_RTEMS_SCORE_
51 ↪CPUOPTS_H=1', '-DHAVE_RTEMS_H=1', ../../gdb/overwrite/rtems_init.c',
52 ↪'-c', '-o/data/home/joel/rtems-work/examples-v2/build/powerpc-rtems5-
53 ↪mpc5566evb/gdb/overwrite/rtems_init.c.1.o']

```

Looks like the -D option from the CPU\_CFLAGS is missing and many of the options are duplicated.

```

1 CPU_CFLAGS = -mcpu=8540 -meabi -msdata=sysv -fno-common $(CPU_CFLAGS_
2 ↪FLOAT) \
3 -D__ppc_generic -mstrict-align

```

**Author:** Chris Johns 2018-05-03T02:25:09.000Z

Thank you, it is what I suspected. There are BSPs where something special or different is happening. It highlights the issue with BSP configurations in a format like make.

If we can collect what we need to have on the CFLAGS in the .pc files I can look at fixing it.

**Author:** Joel Sherrill 2018-05-07T20:07:13.000Z

The underlying problem is that the rtems\_waf application support eats a few gcc arguments that are needed to build applications. In this case it is -Dxxx where xxx is a macro indicating PowerPC type.

The proper solution to this is to ban use of -D in the required BSP CFLAGS. We should not require a -D to be specified on the application command line to either compiler correctly or at all.

This impacts some PowerPC BSPs and defining the expected symbol in bsp.h will work based on this traceback.

```
In      file      included      from      /home/joel/rtems-work/bsp-
install//powerpc-rtems5/mpc5566evb/lib/include/libcpu/powerpc-
utility.h:40:0,      from      /home/joel/rtems-work/bsp-install//powerpc-
rtems5/mpc5566evb/lib/include/bsp.h:39, from ../gdb/overwrite/rtems_init.c:7:
/home/joel/rtems-work/bsp-install//powerpc-rtems5/mpc5566evb/lib/include/rtems/powerpc/powerp
error: #error "Unsupported CPU Model"
```

^~~~~~

My solution is to move the -D in impacted PowerPC BSPs from CFLAGS (or CPU\_CFLAGS) to bsp.h

**Author:** Chris Johns 2018-05-07T21:04:02.000Z

Replying to [Joel Sherrill](#):

My solution is to move the -D in impacted PowerPC BSPs from CFLAGS (or CPU\_CFLAGS) to bsp.h

I agree, applications should only be required to match some machine related flags to make sure the correct ABI is being used.

**Author:** Trac Migrate 2018-05-08T07:37:02.000Z

There are a couple of BSPs which use -D flags:

```
1 grep -- -D bsps/*/config/*
2 bsps/arm/rtl22xx/config/rtl22xx_t.cfg:#CPU_CFLAGS += -mthumb-interwork -
  ↪ -D __THUMB_INTERWORK__ -mthumb
```

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```

3 bsp/arm/rtl22xx/config/rtl22xx_t.cfg:#CPU_ASFLAGS += -D __THUMB_
  ↪INTERWORK__ -mthumb-interwork
4 bsp/arm/smdk2410/config/smdk2410.cfg:CPU_CFLAGS = -mcpu=arm920t -DCPU_
  ↪S3C2410
5 bsp/powerpc/beatnik/config/beatnik.cfg:CPU_CFLAGS = -mcpu=7400 -D__ppc_
  ↪generic
6 bsp/powerpc/haleakala/config/haleakala.cfg:CPU_CFLAGS = -mcpu=405 -
  ↪Dppc405
7 bsp/powerpc/motorola_powerpc/config/mcp750.cfg:CPU_CFLAGS = -mcpu=750 -
  ↪Dmcp750
8 bsp/powerpc/motorola_powerpc/config/mtx603e.cfg:CPU_CFLAGS = -
  ↪mcpu=603e -Dppc603e
9 bsp/powerpc/motorola_powerpc/config/mvme2100.cfg:CPU_CFLAGS = -
  ↪mcpu=603e -Dppc603e
10 bsp/powerpc/motorola_powerpc/config/qemuprep-altivec.cfg:CPU_CFLAGS = -
  ↪mcpu=7400 -mmultiple -mstring -mstrict-align -D__ppc_generic
11 bsp/powerpc/motorola_powerpc/config/qemuprep.cfg:CPU_CFLAGS = -
  ↪mcpu=powerpc -mmultiple -mstring -mstrict-align -D__ppc_generic
12 bsp/powerpc/mpc55xxevb/config/mpc55xx.inc: -D__ppc_generic -mstrict-
  ↪align
13 bsp/powerpc/mpc8260ads/config/mpc8260ads.cfg:CPU_CFLAGS = -mcpu=603e -
  ↪mstrict-align -Dmcp8260 \
14 bsp/powerpc/mvme3100/config/mvme3100.cfg:CPU_CFLAGS = -mcpu=powerpc -
  ↪msoft-float -D__ppc_generic
15 bsp/powerpc/mvme5500/config/mvme5500.cfg:CPU_CFLAGS = -mcpu=7450 -
  ↪mtune=7450 -Dmcp7455
16 bsp/powerpc/psim/config/psim.cfg:CPU_CFLAGS = -meabi -mcpu=603e -
  ↪msdata=sysv -fno-common -Dppc603e
17 bsp/powerpc/qemuppc/config/qemuppc.cfg:CPU_CFLAGS = -mcpu=603e -
  ↪Dppc603e
18 bsp/powerpc/qoriq/config/qoriq_e6500_32.cfg: -D__ppc_generic
19 bsp/powerpc/qoriq/config/qoriq_e6500_64.cfg: -D__ppc_generic
20 bsp/powerpc/qoriq/config/qoriq.inc: -D__ppc_generic
21 bsp/powerpc/ss555/config/ss555.cfg:CPU_CFLAGS = -mcpu=$(GCC_CPU_MODEL)_
  ↪-Dmcp555
22 bsp/powerpc/t32mppc/config/t32mppc.cfg: -D__ppc_generic
23 bsp/powerpc/tqm8xx/config/tqm8xx.inc:CPU_CFLAGS = -mcpu=860 -Dmcp860 \
24 bsp/powerpc/virtex4/config/virtex4.cfg:CPU_CFLAGS = -mcpu=405 -Dppc405
25 bsp/powerpc/virtex5/config/virtex5.cfg:CPU_CFLAGS = -mcpu=440 -Dppc440_
  ↪-msoft-float
26 bsp/powerpc/virtex/config/virtex.cfg:CPU_CFLAGS = -mcpu=403 -Dppc405 -
  ↪meabi -msdata=sysv -fno-common
27 bsp/sparc64/niagara/config/niagara.cfg:CPU_CFLAGS = -mcpu=niagara -
  ↪DSUN4V
28 bsp/sparc64/usiii/config/usiii.cfg:CPU_CFLAGS = -mcpu=ultrasparc3 -
  ↪DUS3 -DSUN4U

```

We should ban the use of command line defines.

Getting rid of the `-D__ppc_generic` is easy. Getting rid of the `-Dppc405`, etc. is more

difficult and there is some interaction with the GCC specs:

```

1 #undef CPP_OS_DEFAULT_SPEC
2 #define CPP_OS_DEFAULT_SPEC "\
3 %{!mcpu*: %{!Dppc*: %{!Dmpc*: -Dmpc750} } } \
4 %{mcpu=403: %{!Dppc*: %{!Dmpc*: -Dppc403} } } \
5 %{mcpu=505: %{!Dppc*: %{!Dmpc*: -Dmpc505} } } \
6 %{mcpu=601: %{!Dppc*: %{!Dmpc*: -Dppc601} } } \
7 %{mcpu=602: %{!Dppc*: %{!Dmpc*: -Dppc602} } } \
8 %{mcpu=603: %{!Dppc*: %{!Dmpc*: -Dppc603} } } \
9 %{mcpu=603e: %{!Dppc*: %{!Dmpc*: -Dppc603e} } } \
10 %{mcpu=604: %{!Dppc*: %{!Dmpc*: -Dmpc604} } } \
11 %{mcpu=750: %{!Dppc*: %{!Dmpc*: -Dmpc750} } } \
12 %{mcpu=821: %{!Dppc*: %{!Dmpc*: -Dmpc821} } } \
13 %{mcpu=860: %{!Dppc*: %{!Dmpc*: -Dmpc860} } } \
14 %{mcpu=8540: %{!Dppc*: %{!Dmpc*: -Dppc8540} } } \
15 %{mcpu=e6500: -D__PPC_CPU_E6500__}"

```

**Author:** Trac Migrate 2018-05-08T22:35:29.000Z

In [changeset:"2a1171d8c8874de9b9d021442d916a92617d2350/rtems" 2a1171d8/rtems]:

```

1 rtl22xx_t.cfg: Remove comment with -D __THUMB_INTERWORK__
2
3 Updates #3425.

```

**Author:** Trac Migrate 2018-05-10T22:25:29.000Z

In [changeset:"c8dcdf5438836255870893994d26539da7ff3c9a/rtems" c8dcdf54/rtems]:

```

1 spar64 niagara, usiii: Remove -D options from cfg file and move to ↪
  ↪ bspopts.h
2
3 Updates #3425.

```

**Author:** Joel Sherrill 2018-05-10T22:27:19.000Z

I think this ticket is down to the PowerPC BSPs. If you had a solution in mind Sebastian, please implement it.

**Author:** Trac Migrate 2018-05-11T04:57:20.000Z

I don't have time for this ticket at least in the next two weeks.

**Author:** Trac Migrate 2018-05-15T14:25:55.000Z

In [changeset:"9d62874193262f7f3953e45e85f87712953528d0/rtems" 9d62874/rtems]:

```
1 sparc64 BSPs: Hard define configuration required settings
2
3 Updates #3425.
```

**Author:** Joel Sherrill 2018-05-15T23:04:01.000Z

Replying to [Sebastian Huber](#):

I don't have time for this ticket at least in the next two weeks.

Is the approach I used on the arm and sparc64 BSPs acceptable? I am testing a similar patch for the PowerPC BSPs. Use BSP\_SETOPTS when variants and AC\_DEFINE when there are no variants.

If so, this will eliminate the use of -Dxxx in .cfg files.

**Author:** Trac Migrate 2018-05-18T13:22:54.000Z

In [changeset:"eaf5bec4cd37c5e2a2659208ff937a635182933a/rtems" eaf5bec/rtems]:

```
1 virtex5: Move -Dxxx to configure.ac
2
3 Updates #3425.
```

**Author:** Joel Sherrill 2018-05-18T13:24:32.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

No BSPs use -D in CFLAGS now. [#3431](#) is a ticket to track some identified follow up work.

**Author:** Trac Migrate 2018-06-11T12:48:11.000Z

In [changeset:"07c597636a87b1a5e8d5959190f59d3fb5ea1634/rtems" 07c5976/rtems]:

```
1 bsps/powerpc: Hack to fix the build
2
3 The ppc405 define must be checked before the ppc403 define. The ppc405
4 define is provided by <bspopts.h>. The ppc403 define is provided by GCC
5 as a built-in define if no ppc* or mpc* define is set via the
6 command line (see GCC sources "gcc/config/rs6000/rtems.h").
7
8 Update #3425.
```

**Author:** Trac Migrate 2018-06-11T12:48:21.000Z

In [changeset:"5249a4cc283af9faf17d45889a124b60784fe64d/rtems" 5249a4c/rtems]:

```
1 powerpc: Fix ss555 build
2
3 The mpc555 define is provided via <bsopts.h>. It must not be used in
4 cpukit header files.
5
6 Update #3425.
```

#### 4.2.1.531 3437 - Replace use of printk() in free() with a fatal error

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3437                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2018-05-25T12:56:20.000Z                                                                                                      |
| <b>Updated</b>     | 2018-06-05T07:14:01.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, version::5                                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3437">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3437</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

An invalid heap usage such as a double free is usually a fatal error. Replace the use of printk() in free() with a fatal error. Introduce a new fatal error source for heap errors.

**Author:** Trac Migrate 2018-06-05T07:13:27.000Z

Original author: sebastian.huber

In [changeset:"de9b7d712bf5da6593386fd4fbca0d5f8b8431d8/rtems" de9b7d7/rtems]:

```
1 Add RTEMS_FATAL_SOURCE_INVALID_HEAP_FREE
2
3 An invalid heap usage such as a double free is usually a fatal error
4 since this indicates a use after free. Replace the use of printk() in
5 free() with a fatal error.
6
7 Update #3437.
```

**Author:** Trac Migrate 2018-06-05T07:14:01.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"aaf9c78ac17ad22a02b4538cd9cee92940ed4b85/rtems-docs" aaf9c78/rtems-docs]:

```
1 c-user: RTEMS_FATAL_SOURCE_INVALID_HEAP_FREE
2
3 Close #3437.
```

#### 4.2.1.532 3244 - Change rtems\_panic() implementation and document this function

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3244                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-11-21T10:16:54.000Z                                                                                            |
| <b>Updated</b>     | 2018-06-05T07:13:17.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, version::5                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3244">https://gitlab.rtems.org/rtems/rtems/-/issues/3244</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The current `rtems_panic()` implementation is quite heavy weight. It depends on `_exit()` which calls the global destructors. It uses `fprintf(stderr, ...)` for output which depends on an initialized console device and the complex `fprintf()`.

Introduce a new fatal source `RTEMS_FATAL_SOURCE_PANIC` for `rtems_panic()` and output via `printk()`.

Document this function in Fatal Manager chapter.

Replace all `BSP_panic()` with `rtems_panic()`.

**Author:** Trac Migrate 2017-11-22T12:02:20.000Z

Original author: sebastian.huber

In [changeset:"15e19273b2a6ebda3b2d55b28d693e7b8a0740b2/rtems" 15e19273/rtems]:

```
1 sapi: New implementation of rtems_panic()
2
3 The previous rtems_panic() implementation was quite heavy weight. It
4 depended on _exit() which calls the global destructors. It used
5 fprintf(stderr, ...) for output which depends on an initialized console
   (continues on next page)
```

(continued from previous page)

```

6 device and the complex fprintf().
7
8 Introduce a new fatal source RTEMS_FATAL_SOURCE_PANIC for rtems_panic()
9 and output via vprintk().
10
11 Update #3244.

```

**Author:** Trac Migrate 2017-11-23T06:28:11.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"97c51c8bfb875340941f492b6b32b5c88c1ec21/rtems-docs" 97c51c8/rtems-docs]:

```

1 c-user: Document rtems_panic()
2
3 Close #3244.

```

**Author:** Trac Migrate 2018-06-05T07:13:17.000Z

Original author: sebastian.huber

In [changeset:"c934365f238cf971e1ec39a19fbd06df25e5f01c/rtems" c934365f/rtems]:

```

1 Update rtems_fatal_source_text()
2
3 Add RTEMS_FATAL_SOURCE_PANIC to rtems_fatal_source_text().
4
5 Update #3244.

```

#### 4.2.1.533 3419 - Always build network services (tftps, ftpfs, ftpd, telnetd, libdebugger)

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3419                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2018-04-30T07:15:30.000Z                                                                                                      |
| <b>Updated</b>     | 2018-05-08T06:07:02.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | network::legacy, priority::normal, resolution::fixed, ticket-type::enhancement, version::5                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3419">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3419</a> |
| <b>Merges</b>      | 0                                                                                                                             |



Original author: sebastian.huber

Always build network services (tftpfs, ftpfs, ftpd, telnetd, libdebugger) which only depend on the POSIX socket API (provided by Newlib header files) as support libraries. Remove them from libbsd.

The network services must reside in dedicated libraries to avoid a cyclic dependency between libbsd.a and librtemscpu.a.

**Author:** Trac Migrate 2018-05-02T07:59:18.000Z

Original author: sebastian.huber

In [changeset:"dd8e4b760b6b86a49be79f04a29fa7be20e11b92/rtems" dd8e4b7/rtems]:

```
1 libdebugger: Move to separate library
2
3 Always build remote TCP support since it depends only on the POSIX
4 socket API. It works with the legacy network stack and libbsd. Move it
5 to a separate libdebugger.a library to allow an easy use with libbsd via
6 "-ldebugger -lbsd" otherwise we would have a cyclic dependency between
7 libbsd.a and librtemscpu.a.
8
9 Update #3419.
```

**Author:** Trac Migrate 2018-05-02T07:59:28.000Z

Original author: sebastian.huber

In [changeset:"c3bab73b4bb1b02879671d72ff96e625a1b4807e/rtems" c3bab73b/rtems]:

```
1 tftpfs: Always build TFTP client
2
3 Move TFTP client filesystem to separate library libtftpfs.a.
4 Conditionally use legacy network stack features, e.g. BOOTP support.
5
6 Update #3419.
```

**Author:** Trac Migrate 2018-05-02T07:59:39.000Z

Original author: sebastian.huber

In [changeset:"fea9a7a7e59f4a6f08805591200e6dd943412372/rtems" fea9a7a/rtems]:

```
1 ftpfs: Always build FTP client
2
3 Move FTP client filesystem to separate library libftpfs.a.
```

(continues on next page)

(continued from previous page)

4  
5 Update #3419.

**Author:** Trac Migrate 2018-05-02T07:59:49.000Z

Original author: sebastian.huber

In [changeset:"bf76d5fe76f413a1936d903caec0d4e600995ce0/rtems"  
bf76d5f/rtems]:

1 network: Import latest <arpa/ftp.h> from FreeBSD  
2  
3 Update #3419.

**Author:** Trac Migrate 2018-05-02T08:00:00.000Z

Original author: sebastian.huber

In [changeset:"4fed5ac2a4f172c2f7248c45b4f1f9dc48ed3a05/rtems"  
4fed5ac/rtems]:

1 ftpd: Fairplay with libbsd  
2  
3 Update #3419.

**Author:** Trac Migrate 2018-05-02T08:00:10.000Z

Original author: sebastian.huber

In [changeset:"32b5b238da77289eb74a36401d8198934437be6d/rtems"  
32b5b23/rtems]:

1 ftpd: Use floating-point tasks due to syslog()  
2  
3 Update #3419.

**Author:** Trac Migrate 2018-05-02T08:00:20.000Z

Original author: sebastian.huber

In [changeset:"b771cb48a61c6094da114d064df7d6b1daa01953/rtems"  
b771cb4/rtems]:

1 ftpd: Always build FTP daemon  
2  
3 Add support for libbsd initialization.

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(continued from previous page)

4  
5 Update #3419.

**Author:** Trac Migrate 2018-05-02T08:00:31.000Z

Original author: sebastian.huber

In [changeset:"b80b34c38da25733174ab7bce4a918919ccd4058/rtems" b80b34c3/rtems]:

1 telnetd: Always build telnet daemon  
2  
3 Add support **for** libbsd initialization.  
4  
5 Update #3419.

**Author:** Trac Migrate 2018-05-02T08:00:41.000Z

Original author: sebastian.huber

In [changeset:"8d52a0e246951e96d27de25b03c056caa65d1a3c/rtems" 8d52a0e2/rtems]:

1 telnetd: Use syslog() instead of printk()  
2  
3 Update #3419.

**Author:** Trac Migrate 2018-05-02T08:01:29.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"443a058db4ee8032221da84823f39f411796ff63/rtems-libbsd" 443a058/rtems-libbsd]:

1 Use network services **from RTEMS**  
2  
3 Close #3419.

**Author:** Trac Migrate 2018-05-02T08:37:00.000Z

Original author: sebastian.huber

In [changeset:"634b3bfeced03b290823890d8920194bd78b9355/rtems-libbsd" 634b3bf/rtems-libbsd]:

```

1 rtems-debugger: Remove files
2
3 They are now in the main RTEMS sources.
4
5 Update #3419.

```

**Author:** Chris Johns 2018-05-03T02:21:40.000Z

Original author: sebastian.huber

Does this change require user applications update their list of libraries linked to use the services moved to separate libraries?

**Author:** Trac Migrate 2018-05-03T05:25:55.000Z

Original author: sebastian.huber

Yes, the old network stack already had libftpd.a and libtelnetd.a. In the libbsd it was previously included. The libtftpfs.a and libtftpfs.a are new. The debugger support with libdebugger.a will be new in RTEMS 5.1.

**Author:** Chris Johns 2018-05-03T05:39:58.000Z

Original author: sebastian.huber

Thank you. I just wanted this noted for the release notes.

**Author:** Trac Migrate 2018-05-04T05:16:48.000Z

Original author: sebastian.huber

In [changeset:"dd35ec5cd75e955f50fba3cd1c614d54eec0d1c4/rtems-libbsd" dd35ec5/rtems-libbsd]:

```

1 waf: Allow to add libs per test.
2
3 Update #3419.

```

**Author:** Trac Migrate 2018-05-08T06:07:02.000Z

Original author: sebastian.huber

In [changeset:"eaa1709894668db739d09a6cea57f98ed4cee38b/rtems" eaa1709/rtems]:

```

1 ftpd: Fix infinite recursion in yield()
2
3 Update #3419.

```

## 4.2.1.534 3418 - Remove difftest and sorttimes test tools

|                    |                                                                                                                                 |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3418                                                                                                                            |
| <b>State</b>       | closed                                                                                                                          |
| <b>Type</b>        | ISSUE                                                                                                                           |
| <b>Author</b>      | Trac Migrate                                                                                                                    |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                    |
| <b>Created</b>     | 2018-04-30T06:12:18.000Z                                                                                                        |
| <b>Updated</b>     | 2018-05-02T07:58:57.000Z                                                                                                        |
| <b>Milestone</b>   | 5.1                                                                                                                             |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::task, tool, version::5                                                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3418">https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3418</a> |
| <b>Merges</b>      | 0                                                                                                                               |

Original author: sebastian.huber

Evaluation of test results and report generation should move to somewhere else, e.g. the RTEMS tester.

**Author:** Trac Migrate 2018-05-02T07:58:57.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"397df7acd8f2b865a81cdfe193cfbb0ccc069521/rtems" 397df7a/rtems]:

```
1 tests: Remove difftest and sorttimes tools
2
3 Close #3418.
```

## 4.2.1.535 3423 - examples-v2: m68k/powerpc BSPs undefined reference to \_Thread\_Life\_action\_handler

|                    |                                                                                                                                 |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3423                                                                                                                            |
| <b>State</b>       | closed                                                                                                                          |
| <b>Type</b>        | ISSUE                                                                                                                           |
| <b>Author</b>      | Joel Sherrill                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                    |
| <b>Created</b>     | 2018-05-01T14:36:26.000Z                                                                                                        |
| <b>Updated</b>     | 2018-05-02T00:30:39.000Z                                                                                                        |
| <b>Milestone</b>   | 5.1                                                                                                                             |
| <b>Labels</b>      | priority::normal, resolution::duplicate, tickettype::defect, version::5                                                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3423">https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3423</a> |
| <b>Merges</b>      | 0                                                                                                                               |

fat\_ramdisk is failing to link on multiple m68k and powerpc BSPs. Errors below the list of BSPs

m68k-av5282 m68k-gen68340 m68k-gen68360 m68k-gen68360\_040 m68k-mcf5206elite  
 m68k-mcf52235 m68k-mcf5225x m68k-mcf5235 m68k-mcf5329 m68k-mrm332 m68k-pgh360  
 m68k-uC5282 powerpc-mpc8260ads powerpc-qemuppc powerpc-qoriq\_e6500\_64 powerpc-ss555

```

1 [20/20] Processing rtrace: build/m68k-rtems5-av5282/filesystem/fat_ramdisk/init.c.
  ↳4.o build/m68k-rtems5-av5282/filesystem/fat_ramdisk/fs-root-tar.c.4.o -> build/
  ↳m68k-rtems5-av5282/filesystem/fat_ramdisk/fat_ramdisk.texe
2 /home/joel/rtems-work/tools/5/bin/m68k-rtems5-gcc: /tmp/ccIRjaaa.o: In function `__
  ↳_wrap__Thread_Life_action_handler':
3 /home/joel/rtems-work/tools/5/bin/m68k-rtems5-gcc: /tmp/cckrhaaa.c:1248:
  ↳undefined reference to `__Thread_Life_action_handler'
4 /home/joel/rtems-work/tools/5/bin/m68k-rtems5-gcc: collect2: error: ld returned 1
  ↳exit status
5 error: linking: Linker error

```

**Author:** Chris Johns 2018-05-02T00:24:47.000Z

- **Description** changed

```

1 fat_ramdisk is failing to link on multiple m68k and powerpc BSPs.
  ↳Errors below the list of BSPs
2
3 m68k-av5282
4 m68k-gen68340
5 m68k-gen68360
6 m68k-gen68360_040
7 m68k-mcf5206elite
8 m68k-mcf52235
9 m68k-mcf5225x
10 m68k-mcf5235
11 m68k-mcf5329
12 m68k-mrm332
13 m68k-pgh360
14 m68k-uC5282
15 powerpc-mpc8260ads
16 powerpc-qemuppc
17 powerpc-qoriq_e6500_64
18 powerpc-ss555
19
20 + {{{
21 - =====
22 -
23 [20/20] Processing rtrace: build/m68k-rtems5-av5282/filesystem/fat_
  ↳ramdisk/init.c.4.o build/m68k-rtems5-av5282/filesystem/fat_ramdisk/fs-
  ↳root-tar.c.4.o -> build/m68k-rtems5-av5282/filesystem/fat_ramdisk/fat_
  ↳ramdisk.texe
24 /home/joel/rtems-work/tools/5/bin/m68k-rtems5-gcc: /tmp/ccIRjaaa.o: In
  ↳function `__wrap__Thread_Life_action_handler':
25 /home/joel/rtems-work/tools/5/bin/m68k-rtems5-gcc: /tmp/cckrhaaa.

```

(continues on next page)

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```

26 ↪c:1248: undefined reference to `_Thread_Life_action_handler'
/home/joel/rtems-work/tools/5/bin/m68k-rtems5-gcc: collect2: error: ld_
27 ↪returned 1 exit status
27 -
28 error: linking: Linker error
29 - =====
30 + }}}
31
32
33 +

```

**Author:** Chris Johns 2018-05-02T00:29:00.000Z

- **Resolution** set to ~"duplicate"
- **Status** changed from *new* to *closed*

This is the a duplicate of #3413 so I am closing it. The solution is in that ticket.

**Author:** Joel Sherrill 2018-05-02T00:30:39.000Z

#### 4.2.1.536 3410 - Remove bin2boot program used by i386 BSPs

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3410                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2018-04-25T13:55:39.000Z                                                                                            |
| <b>Updated</b>     | 2018-04-27T05:13:31.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:i386, priority::normal, resolution::fixed, tickettype::task, version::5                                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3410">https://gitlab.rtems.org/rtems/rtems/-/issues/3410</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

For which boot loader is this? Can it be removed?

The sources have no copyright information.

**Author:** Trac Migrate 2018-04-27T05:13:31.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"3d703f40d5763effb9d892b05e2635835b5f094b/rtems" 3d703f4/rtems]:

```
1 bsp/pc386: Remove bin2boot support
2
3 Update #3408.
4 Close #3410.
```

#### 4.2.1.537 3411 - qemu PPC does not install linkcmds.base

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3411                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2018-04-25T14:51:14.000Z                                                                                            |
| <b>Updated</b>     | 2018-04-25T18:36:17.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:powerpc, priority::normal, resolution::fixed, tickettype::defect, version::5                                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3411">https://gitlab.rtems.org/rtems/rtems/-/issues/3411</a> |
| <b>Merges</b>      | 0                                                                                                                   |

examples-v2 fail to compile qemu PPC because linkcmds.base is not installed.

They build OK for sparc/erc32. This must be a minor glitch from the build system changes.

**Author:** Joel Sherrill 2018-04-25T14:51:45.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2018-04-25T18:36:17.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"b3e5aa55223c3de233745845bb1c30826aa3b8d6/rtems" b3e5aa5/rtems]:

```
1 bsp/qemu PPC: Install linkcmds.base
2
3 Update #3339.
4 Close #3411.
```



## 4.2.1.538 3403 - RSB RTEMS tool set build is irreproducible

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3403                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2018-04-18T05:17:25.000Z                                                                                            |
| <b>Updated</b>     | 2018-04-18T08:07:30.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3403">https://gitlab.rtems.org/rtems/rtems/-/issues/3403</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The RTEMS 5 tool set contains the RTEMS tools (rtems-tools). The version of the RTEMS tools is determined by the tool set build time since the current Git master branch is fetched. Instead use an explicit RTEMS tools version (similar to all other tools, e.g. Binutils, Newlib, GCC, GDB) to make the RTEMS tool set independent of the arbitrary build time.

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Trac Migrate    2018-04-18T08:07:30.000Z |
|---------------------------------------------------------|

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"50593d4406704155d72f205785277133212c5c1c/rtems-source-builder" 50593d4/rtems-source-builder]:

```

1 5: Use a specific RTEMS tools version
2
3 Download via cgit archive.
4
5 Close #3403.
```

## 4.2.1.539 3397 - The register keyword is deprecated in C++11

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3397                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2018-04-16T05:22:14.000Z                                                                                            |
| <b>Updated</b>     | 2018-04-17T05:06:01.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3397">https://gitlab.rtems.org/rtems/rtems/-/issues/3397</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The following code gives a warning with GCC and -std=c++17:

```

1 void f(void)
2 {
3   register int i;
4 }

test.cc: In function \ |md_0_8216|\ void f()\ |md_0_8217|\ :
test.cc:3:15: warning: ISO C++1z does not allow \ |md_0_8216|\ register\ |md_0_
↪8217|\ storage class specifier [-Wregister]
3   register int i;
4   ^

```

Remove the use of the register keyword at least in the public header files for C++ compatibility.

**Author:** Trac Migrate 2018-04-17T05:06:01.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"f35c3be9f8968daaa1b3e81808f9b99079d17a68/rtems" f35c3be9/rtems]:

```

1 Remove register keyword from public header files
2
3 The following code
4
5 void f(void)
6 {
7   register int i;
8 }
9

```

(continues on next page)

(continued from previous page)

```

10 gives a warning with GCC and -std=c++17
11
12 test.cc: In function \ |md_0_8216|\ void f()\ |md_0_8217|\ :
13 test.cc:3:15: warning: ISO C++1z does not allow \ |md_0_8216|\ register\
   ↪ |md_0_8217|\ storage class
14 specifier [-Wregister]
15 register int i;
16 ^
17
18 and clang with -std=c++14
19
20 test.cc:3:3: warning: 'register' storage class specifier is deprecated
21 and incompatible with C++1z [-Wdeprecated-register]
22 register int i;
23 ^~~~~~
24 1 warning generated.
25
26 Remove the use of the register keyword at least in the public header
27 files for C++ compatibility.
28
29 Close #3397.

```

## 4.2.1.540 3396 - rtems-ld does not handle R\_ARM\_V4BX relocation records

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3396                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2018-04-16T01:54:13.000Z                                                                                            |
| <b>Updated</b>     | 2018-04-16T01:57:46.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool, version::5                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3396">https://gitlab.rtems.org/rtems/rtems/-/issues/3396</a> |
| <b>Merges</b>      | 0                                                                                                                   |

The R\_ARM\_V4BX does not have a symbol and this raised an error with dl06 with a ARMv7 instruction set when merging sections when creating a RAP image.

Ignore this relocation record.

**Author:** Trac Migrate 2018-04-16T01:57:46.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"ec419a05ee52869a7d5b8712ea8e7a7d74fde096/rtems-tools"  
ec419a0/rtems-tools]:

```

1 rtemstoolkit/rap: Ignore R_ARM_V4BX relocation records
2
3 Note, this removes the details needed to alter the instruction for
4 an ARMv4 instruction set. Currently this type of record is not handled
5 in the RAP format loader and the RTL loader ignores it.
6
7 Close #3396

```

#### 4.2.1.541 3395 - rtems-ld does not remove executable when there is an output error

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3395                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2018-04-14T03:29:54.000Z                                                                                            |
| <b>Updated</b>     | 2018-04-14T04:17:57.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool, version::5                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3395">https://gitlab.rtems.org/rtems/rtems/-/issues/3395</a> |
| <b>Merges</b>      | 0                                                                                                                   |

An error when outputting an executable does not clean up the file and leaves an incorrect format file.

This is happening with the beagle bone black BSP and test dl06.

**Author:** Chris Johns 2018-04-14T03:30:09.000Z

- **Description** changed

```

1 An error when outputting an executable does not clean up the file and
2 ↪ leaves an incorrect format file.
3
4 - This is happening with the beagle bone black BSP.
5 + This is happening with the beagle bone black BSP and test dl06.
6 ?
7
8 ++++++

```

**Author:** Trac Migrate 2018-04-14T04:17:57.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"82c8788b111a4392a56414f8f421ba26ded5d0fd/rtems-tools" 82c8788/rtems-tools]:

```

1 rtemstoolkit/rtl-file: Remove a file on close if requested
2
3 Close #3395

```

#### 4.2.1.542 3392 - infinite loop in RSB's path when a prefix path is not writable

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3392                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2018-04-13T03:05:53.000Z                                                                                            |
| <b>Updated</b>     | 2018-04-13T03:10:08.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3392">https://gitlab.rtems.org/rtems/rtems/-/issues/3392</a> |
| <b>Merges</b>      | 0                                                                                                                   |

The code gets the `dirname()` of the path stepping up until there is no path however `dirname('/')` is `/` so the path never has a length of `0`.

**Author:** Chris Johns 2018-04-13T03:06:15.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *accepted*

**Author:** Trac Migrate 2018-04-13T03:10:08.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"cabaff820674700d4ca1951dc059b51fcf852d48/rtems-source-builder" cabaff8/rtems-source-builder]:

```

1 sb/path: Walk up to root checking if a path is writable.
2
3 A dirname of / is / so the path will never have a length of 0.
4
5 Close #3392

```

4.2.1.543 2769 - rtems-syms does not clean up temp files.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2769                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2016-08-02T00:36:47.000Z                                                                                                      |
| <b>Updated</b>     | 2018-04-13T00:30:33.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::invalid, tickettype::defect, version::5                                                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2769">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2769</a> |
| <b>Merges</b>      | 0                                                                                                                             |

I am seeing temps files such as:

```

1 $ ls -las /tmp/rld-*
2 0 -rw----- 1 chris wheel 0 Jul 27 18:16 /tmp/rld--04lbaa.rldxx
3 0 -rw----- 1 chris wheel 0 Jul 27 18:42 /tmp/rld--0niaaa.rldxx
4 0 -rw----- 1 chris wheel 0 Jul 27 18:39 /tmp/rld--0viaaa.rldxx
5 0 -rw----- 1 chris wheel 0 Jul 27 18:38 /tmp/rld--1Hhaaa.rldxx
6 88 -rw----- 1 chris wheel 87426 Jul 27 18:30 /tmp/rld--1ibaaa.c
7 0 -rw----- 1 chris wheel 0 Jul 27 18:24 /tmp/rld--2EZaaa.rldxx
8 0 -rw----- 1 chris wheel 0 Jul 29 17:11 /tmp/rld--2rwaaa.rldxx
9 0 -rw----- 1 chris wheel 0 Jul 29 18:14 /tmp/rld--2sBaaa.rldxx
10 88 -rw----- 1 chris wheel 88148 Jul 29 17:40 /tmp/rld--2umaaa.c
11 88 -rw----- 1 chris wheel 87426 Jul 27 18:25 /tmp/rld--3baaaa.c
12 88 -rw----- 1 chris wheel 87426 Jul 27 18:27 /tmp/rld--4Jaaaa.c
13 0 -rw----- 1 chris wheel 0 Jul 27 18:52 /tmp/rld--4Wiaaa.rldxx
14 0 -rw----- 1 chris wheel 0 Jul 27 18:38 /tmp/rld--4bfaaa.rldxx

```

left in /tmp. They look like symbols and so I suspect rtems-syms when building the testsuite with 4.12 (master). This is on FreeBSD.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

**Author:** Trac Migrate 2018-04-12T23:30:08.000Z

In [changeset:"2a61542f44fecb3bbcb4b851673fd71b10c3af687/rtems" 2a61542/rtems]:

```

1 libdl: RAP format fixes.
2
3 - Do not error if a RAP section is not found.
4
5 - Free a symbol table via the RTL allocator interface.
6
7 - Add the symbols to the global symbol table.
8
9 Update #2769

```

**Author:** Trac Migrate 2018-04-12T23:30:27.000Z

In [changeset:"31cd205d2b349d49099c7c2eff33365378c97529/rtems" 31cd205d/rtems]:

```

1 tools: Add a -N option to force a name on the array.
2
3 This can be used to have a different file name for the same data
4 name.
5
6 Update #2769

```

**Author:** Trac Migrate 2018-04-12T23:30:41.000Z

In [changeset:"86e79d795514424a4a69be0568bc2eeb802733b6/rtems" 86e79d7/rtems]:

```

1 testsuites/dl06: Add a test for RAP format.
2
3 This test loads a RAP format file that contains calls that are not
4 in the kernel and linked from libm. It uses and test rtems-ld.
5
6 Update #2769

```

**Author:** Chris Johns 2018-04-13T00:30:33.000Z

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

I have add rtems-ld to the testsuite so it and rtems-syms are both run and I cannot see any temp files being left. I wonder if this happens when there is an error?

I am going to close the ticket with invalid and it can be opened again if this appears again.

## 4.2.1.544 3390 - NFS: Remove support for cexp

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3390                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2018-04-12T05:08:31.000Z                                                                                            |
| <b>Updated</b>     | 2018-04-12T05:17:00.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | network::legacy, priority::normal, resolution::fixed, tickettype::task, version::5                                  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3390">https://gitlab.rtems.org/rtems/rtems/-/issues/3390</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

There is some support for cexp and tests in the NFS client directory:

```
cpukit/libfs/src/nfsclient/src/cexphelp.c          cpukit/libfs/src/nfsclient/src/dirutils.c
cpukit/libfs/src/nfsclient/src/nfs.modini.c        cpukit/libfs/src/nfsclient/src/nfsTest.c
cpukit/libfs/src/nfsclient/src/rpcio.modini.c
```

There are also some \*.rel files installed. This stuff is probably unused. If it is still in use it should move elsewhere, e.g. some general cexp support outside of the main RTEMS sources. Dead/untested code should not be present in the RTEMS code base.

See also:

<https://lists.rtems.org/pipermail/users/2018-April/032182.html>

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2018-04-12T05:17:00.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"9e3691096ed41b2b50817ca76634ba529ce180c8/rtems" 9e36910/rtems]:

```
1 NFS: Remove support for cexp
2
3 Avoid use of RTEMS_RELLDFLAGS.
4
5 Close #3390.
```



## 4.2.1.545 3323 - mhttpd's http etag can result in invalid caching in a browser.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3323                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2018-03-08T04:11:03.000Z                                                                                                      |
| <b>Updated</b>     | 2018-04-11T02:47:25.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | library, priority::normal, resolution::fixed, tickettype::defect, version::5                                                  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3323">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3323</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The mhttp's http etag uses the mtime and file length and this can cause subtle issues if a target has no RTC or it is incorrect and files are being copied without preserving the mtime or changes happen that do not change the length.

The cp and untar code do not update a file's time.

Add support for an etag callback so a user can manage the tag, ie MD5 or something similar.

**Author:** Trac Migrate 2018-04-11T02:47:25.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d13a62409e497c10725af6f975bdfb6ca17a3ebd/rtems"  
d13a624/rtems]:

```
1 cpukit/mhttpd: Add a callback to generate a per file HTTP etag
2
3 Close #3323.
```

## 4.2.1.546 3209 - RSB should fail on this error

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3209                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-10-26T19:01:06.000Z                                                                                                      |
| <b>Updated</b>     | 2018-04-11T02:01:37.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5                               |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3209">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3209</a> |
| <b>Merges</b>      | 0                                                                                                                             |

I was updating the md5's to sha512's on qemu and made a typo which resulted in this message:

```

1 reporting: devel/qemu-git-1.cfg -> qemu-42d58e7c6760cb9c55627c28ae538e27dcf2f144-
  ↳x86_64-linux-gnu-1.xml
2 error: qemu-git-1.cfg:57: invalid number of hash args
3 loading: vdeplug
4 get: requires ()

```

The error message did not result in the build aborting. Perhaps this should be a fatal error.

The broken RSB fragment was in qemu-git-1.cfg:

```

1 %patch add qemu %{rtems_http_git}/rtems-tools/plain/tools/qemu/0001-openrisc-
  ↳terminate-qemu-process-upon-receiving-a-hal.patch
2 -%hash md5 0001-openrisc-terminate-qemu-process-upon-receiving-a-hal.patch_
  ↳6aa9dfc4522466ab4a463129b3b9cb1d
3 +%hash md5_
  ↳376ea9e07c4c8077b345af02856549843dff2ad73b5da5886c71e859c4a0849522c59dcd05724270756763438aecdb

```

- [0001-sb-config-Terminate-building-on-an-error.patch](#)

**Author:** Joel Sherrill 2017-10-26T19:01:16.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

**Author:** Joel Sherrill 2017-10-26T19:03:21.000Z

- **Description** changed

```

1 I was updating the md5's to sha512's on qemu and made a typo which_
  ↳resulted in this message:
2
3 {{{
4 reporting: devel/qemu-git-1.cfg -> qemu-
  ↳42d58e7c6760cb9c55627c28ae538e27dcf2f144-x86_64-linux-gnu-1.xml
5 error: qemu-git-1.cfg:57: invalid number of hash args
6 loading: vdeplug
7 get: requires ()
8 }}}
9
10 The error message did not result in the build aborting. Perhaps this_
  ↳should be a fatal error.
11 - It
12 +
13 + The broken RSB fragment was in qemu-git-1.cfg:
14 +
15 + {{{
16 + %patch add qemu %{rtems_http_git}/rtems-tools/plain/tools/qemu/0001-
  ↳openrisc-terminate-qemu-process-upon-receiving-a-hal.patch
17 + -%hash md5 0001-openrisc-terminate-qemu-process-upon-receiving-a-hal.

```

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```

18 ↪ patch 6aa9dfc4522466ab4a463129b3b9cb1d
+ +%hash md5_
19 ↪ 376ea9e07c4c8077b345af02856549843dff2ad73b5da5886c71e859c4a0849522c59dcd05724270756763438
+ }}}

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

**Author:** Chris Johns 2018-04-10T07:55:58.000Z

Are you sure the did continue? If you get an error the RSB switches to --dry-run mode.

Maybe an option should be added to stop the build and if the option --keep-going the mode is switched to dry run?

**Author:** Chris Johns 2018-04-10T08:03:19.000Z

- **Attachment** [0001-sb-config-Terminate-building-on-an-error.patch](#) added

Terminate a build patch.

**Author:** Trac Migrate 2018-04-11T02:01:37.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"162cbda055624472ef817b7a9b6ccd65cf97e155/rtems-source-builder" 162cbda/rtems-source-builder]:

```

1 sb/config: Terminate building on an error.
2
3 This changes the previous functionality where the RSB switch to
4 dry run mode. This functionality can be enabled by adding
5 `--keep-going`.
6
7 Close #3209.

```

## 4.2.1.547 2641 - configure: enable-rtemsbsp doesn't warn if bsp does not exist

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2641                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2016-03-11T17:03:32.000Z                                                                                                      |
| <b>Updated</b>     | 2018-04-11T01:57:55.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::build, tickettype::defect, version::4.11, version::4.12, version::5               |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2641">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2641</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: aurelio

When running configure with an incorrect bsp name the script does not cause an error. You can ever run make without getting any warning message.

The script should check the name of the bsp and continue only if it is a valid bsp. On the other hand if the bsp name given by the user is invalid the script should prompt a message.

- [0001-configure-Check-the-enable-rtemsbsp-list-of-BSPs-ear.patch](#)

**Author:** Chris Johns 2016-03-14T02:04:57.000Z

Original author: aurelio

- **Attachment** [0001-configure-Check-the-enable-rtemsbsp-list-of-BSPs-ear.patch](#) added

Add an early check of the RTEMS BSP list.

**Author:** Chris Johns 2016-03-14T02:06:23.000Z

Original author: aurelio

- **Cc** added @chrisj, @joel

Try this patch.

Joel, is this ok to push to master and 4.11?

**Author:** Chris Johns 2016-03-14T23:12:56.000Z

Original author: aurelio

- **Owner** set to @chrisj
- **Status** changed from *new* to *accepted*

The patch is broken, `--enable-rtemsbsp` accepts space delimited bsps and not comma delimited bsps.

I will update the patch and attach again when I can.

**Author:** Trac Migrate 2017-01-26T07:16:00.000Z

Original author: aurelio

- **Milestone** changed from `%”4.11.1”` to `%”4.11.2”`

**Author:** Chris Johns 2017-03-21T03:25:40.000Z

Original author: aurelio

- **Milestone** changed from `%”4.11.2”` to `%”4.12.1”`
- **Version** changed from `~”4.11”` to `~”4.12”`

This is not suitable for a branch. Moving it to master.

**Author:** Chris Johns 2017-03-27T06:48:47.000Z

Original author: aurelio

- **Milestone** changed from `%”4.12.1”` to `%”4.12.0”`

Move to the first 4.12 milestone.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: aurelio

- **Milestone** changed from `%”4.12.0”` to `%”5.1”`

Milestone renamed

**Author:** Trac Migrate 2018-04-11T01:57:55.000Z

Original author: aurelio

- **Resolution** set to `~”fixed”`
- **Status** changed from *accepted* to *closed*

In [changeset:”7ff743d54970febeedfb7d3ff1c76675c2f9dc9a/rtems”  
7ff743d/rtems]:

```
1 Generate an error if a BSP in the --enable-rtemsbsp list is not valid
2
3 Also generate an error if the architecure does not match the --target
4 architecture given to configure's command line.
```

(continues on next page)

(continued from previous page)

```

5
6 Close #2641.

```

## 4.2.1.548 3089 - Inconsistent blocking addressing in RFS

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3089                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-08-03T04:22:04.000Z                                                                                                      |
| <b>Updated</b>     | 2018-04-11T01:57:45.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | filesystem, priority::normal, resolution::fixed, tickettype::defect, version::4.11                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3089">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3089</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: enetor

**Background** There are two ways to address a block in RFS: 1. Via a single 32bit block number (bno) 2. Via a group number(gno) and a bit offset (bit) They should be fully convertible (1-1 mapping). In other words, the equation to convert 1 to 2 should be unique within the RFS implementation.

**The bug** The RFS implementation contains two different conversions between 1 and 2.

**Details** 1. In `rtems_rfs_group_bitmap_alloc` (`rtems-rfs-group.c`, line 172)

```
1 bno = gno * group_blocks + bit
```

2. In `rtems_rfs_group_bitmap_alloc` (`rtems-rfs-group.c`, line 228)

```
1 bno = gno * group_blocks + bit + 1 (via rtems_rfs_group_block() function)
```

3. In `rtems_rfs_group_bitmap_free` (`rtems-rfs-group.c`, line 283)

```
1 bno = gno * group_blocks + bit + 1 (RTEMS_RFS_SUPERBLOCK_SIZE)
```

4. In `rtems_rfs_group_bitmap_test` (`rtems-rfs-group.c`, line 332)

```
1 bno = gno * group_blocks + bit
```

To summarize, the implementation contains two ways of converting a bno to a (gno, bit) pair:  
Either:

```
1 bno = gno * group_blocks + bit
```

Or:

```
1 bno = gno * group_blocks + bit + 1
```

**The Fix** The RFS implementation should consistently convert a bno to a (gno, bit) pair with:

```
1 bno = gno * group_blocks + bit + RTEMS_RFS_SUPERBLOCK_SIZE
```

This is because the superblock is not accounted for in the block bitmaps. So places to change:

1. rtems-rfs-group.c: all references to the conversion must be updated to use RTEMS\_RFS\_SUPERBLOCK\_SIZE explicitly.
2. rtems\_rfs\_group\_block converts the pair to bno via:

```
1 #define rtems_rfs_group_block(_g, _b) (((_g)->base) + (_b))
```

(\_g)->base is calculated via rtems-rfs-format.c from:

```
1 #define rtems_rfs_fs_block(_fs, _grp, _blk) \
2 ((((_fs)->group_blocks) * (_grp)) + (_blk) + 1)
```

The “+ 1” part should really be “+ RTEMS\_RFS\_SUPERBLOCK\_SIZE” to be logically correct. As RTEMS\_RFS\_SUPERBLOCK\_SIZE itself has a comment saying:

```
1 /**
2 * Number of blocks in the superblock. Yes I know it is a superblock and not
3 * superblocks but if for any reason this needs to change it is handled.
4 */
5 #define RTEMS_RFS_SUPERBLOCK_SIZE (1)
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: enetor

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

**Author:** Trac Migrate 2018-04-11T01:57:45.000Z

Original author: enetor

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”9e8df1fe2f443f8aefa3b562309bc282bda66dad/rtems”  
9e8df1fe/rtems]:

```
1 fstest/fsrfsbitmap01: Update RFS bitmap tests to test fixes.
2
3 Add tests to check the patches for this ticket exist and are fixed.
4
5 Close #3089
```

## 4.2.1.549 2490 - RSB: Use SHA512 instead of MD5

|                    |                                                                                                                                 |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2490                                                                                                                            |
| <b>State</b>       | closed                                                                                                                          |
| <b>Type</b>        | ISSUE                                                                                                                           |
| <b>Author</b>      | Trac Migrate                                                                                                                    |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                     |
| <b>Created</b>     | 2015-12-11T07:15:22.000Z                                                                                                        |
| <b>Updated</b>     | 2018-04-10T08:08:31.000Z                                                                                                        |
| <b>Milestone</b>   | 5.1                                                                                                                             |
| <b>Labels</b>      | priority::normal, resolution::wontfix, tickettype::defect, tool::rtems-source-builder, version::4.11, version::4.12, version::5 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2490">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2490</a>   |
| <b>Merges</b>      | 0                                                                                                                               |

Original author: sebastian.huber

Since MD5 is not a secure hash algorithm, we should change all hashes used by the RSB configuration files to use SHA512.

**Author:** Chris Johns 2015-12-11T10:42:07.000Z

Original author: sebastian.huber

- **Owner** set to @chrisj
- **Status** changed from *new* to *accepted*

**Author:** Trac Migrate 2017-01-26T07:05:05.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.11" to %"4.11.2"

**Author:** Chris Johns 2017-03-21T03:24:28.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.11.2" to %"4.12"
- **Version** changed from ~"4.11" to ~"4.12"

Moving this to master.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"



---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

---

**Author:** Chris Johns 2018-04-10T08:08:31.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"wontfix"
- **Status** changed from *accepted* to *closed*

There is 98 md5 labels in the config files. I will not fix this so I am closing it with won't fix. Please open again if this is important and then assign to someone who agrees to update the hashes to sha512.

#### 4.2.1.550 3217 - Add RTEMS version, build and tools details to tests

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3217                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-11-05T07:38:56.000Z                                                                                                      |
| <b>Updated</b>     | 2018-04-10T05:14:43.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | library, priority::normal, resolution::fixed, tickettype::enhancement, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3217">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3217</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Published test results need the RTEMS version, how it is built and the tools used to build the kernel and tests.

- [0001-build-Fix-the-dependence-for-the-generating-the-key-.patch](#)

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

---

**Author:** Trac Migrate 2017-11-11T05:23:26.000Z

---

In [changeset:"30218f5ca5b6b060258791a4f4c915e16f1edbe9/rtems-tools" 30218f5/rtems-tools]:

```

1 tester: Add reporting the RTEMS version, build and tools.
2
3 Update #3217.

```

**Author:** Trac Migrate 2017-11-13T13:16:44.000Z

I get build failures on CentOS Linux release 7.4.1708 with a “make -j 1”:

```

1 + version=5
2 + bsp=t32mppc
3 + target=powerpc
4 + build_dir=b-t32mppc
5 + source_dir=/home/rtems/rtems
6 + rm -rf b-t32mppc
7 + mkdir b-t32mppc
8 + cd b-t32mppc
9 + /home/rtems/rtems/configure --target=powerpc-rtems5 --prefix=/opt/
  ↪ rtems/5 --enable-maintainer-mode --enable-rtemsbsp=t32mppc --enable-
  ↪ posix --disable-tests --enable-networking --enable-smp
10 checking for gmake... gmake
11 checking for RTEMS Version... 5.0.0
12 checking build system type... x86_64-pc-linux-gnu
13 checking host system type... x86_64-pc-linux-gnu
14 ...
15 Making all-am in sapi
16 gmake[5]: Entering directory `/home/rtems/build/b-t32mppc/powerpc-
  ↪ rtems5/c/t32mppc/cpukit/sapi'
17 powerpc-rtems5-gcc --pipe -DHAVE_CONFIG_H -I. -I../..cpukit/../../../../
  ↪ /t32mppc/lib/include -I. -mcpu=8540 -meabi -msdata=sysv -fno-common -
  ↪ -msoft-float -mno-spe -D__ppc_generic -Og -g -ffunction-sections -
  ↪ -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-
  ↪ -declaration -Wstrict-prototypes -Wnested-externs -MT src/libsapi_a-
  ↪ version.o -MD -MP -MF src/.deps/libsapi_a-version.Tpo -c -o src/
  ↪ libsapi_a-version.o `test -f 'src/version.c' || echo '/home/rtems/
  ↪ rtems/c/src/../../../../cpukit/sapi/'`src/version.c
18 /home/rtems/rtems/c/src/../../../../cpukit/sapi/src/version.c:30:10: fatal_
  ↪ error: version-vc-key.h: No such file or directory
19 #include "version-vc-key.h"
20 ^~~~~~
21 compilation terminated.
22 gmake[5]: *** [src/libsapi_a-version.o] Error 1
23 gmake[5]: Leaving directory `/home/rtems/build/b-t32mppc/powerpc-rtems5/
  ↪ c/t32mppc/cpukit/sapi'
24 gmake[4]: *** [sapi] Error 2
25 gmake[4]: Leaving directory `/home/rtems/build/b-t32mppc/powerpc-rtems5/
  ↪ c/t32mppc/cpukit'
26 gmake[3]: *** [cpukit] Error 2
27 gmake[3]: Leaving directory `/home/rtems/build/b-t32mppc/powerpc-rtems5/
  ↪ c/t32mppc'

```

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```

28 gmake[2]: *** [all-recursive] Error 1
29 gmake[2]: Leaving directory `/home/rtems/build/b-t32mppc/powerpc-rtems5/
   ↪c/t32mppc'
30 gmake[1]: *** [all-recursive] Error 1
31 gmake[1]: Leaving directory `/home/rtems/build/b-t32mppc/powerpc-rtems5/
   ↪c'
32 make: *** [all-recursive] Error 1

```

It works only if I change into the sapi build directory and run “make” here:

```

1 cd /home/rtems/build/b-t32mppc/powerpc-rtems5/c/t32mppc/cpukit/sapi
2 ~/build/b-t32mppc/powerpc-rtems5/c/t32mppc/cpukit/sapi > make
3 Generating version-vc-key.h
4 gmake all-am
5 gmake[1]: Entering directory `/home/rtems/build/b-t32mppc/powerpc-
   ↪rtems5/c/t32mppc/cpukit/sapi'
6 powerpc-rtems5-gcc --pipe -DHAVE_CONFIG_H -I. -I../..cpukit/../../../../
   ↪t32mppc/lib/include -I. -mcpu=8540 -meabi -msdata=sysv -fno-common
   ↪-msoft-float -mno-spe -D__ppc_generic -Og -g -ffunction-sections -
   ↪fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-
   ↪declaration -Wstrict-prototypes -Wnested-externs -MT src/libsapi_a-
   ↪version.o -MD -MP -MF src/.deps/libsapi_a-version.Tpo -c -o src/
   ↪libsapi_a-version.o `test -f 'src/version.c' || echo '/home/rtems/
   ↪rtems/c/src/../../../../cpukit/sapi/'`src/version.c

```

**Author:** Chris Johns 2017-11-13T21:53:06.000Z

Replying to [Sebastian Huber](#):

I get build failures on CentOS Linux release 7.4.1708 with a “make -j 1”:

^ ~~~~~

I can repeat this. And ..

```

1 $ find . -name version-vc-key.h
2 $

```

**Author:** Chris Johns 2017-11-14T01:00:54.000Z

- **Attachment** [0001-build-Fix-the-dependence-for-the-generating-the-key-.patch](#) added

Please test and report if this works. Thanks

**Author:** Trac Migrate 2017-11-14T06:07:03.000Z

In [\[changeset:”631f711598ca63bfcdfe3bdf4a57fdda5243c64/rtems”631f711/rtems\]](#):

```

1 build: Fix the dependence for the generating the key file.
2
3 Update #3217.

```

**Author:** Trac Migrate 2017-11-14T06:07:47.000Z

Thanks, this patch worked.

**Author:** Joel Sherrill 2017-12-05T14:27:35.000Z

Is this resolved? The tests are reporting version information. I can't tell what else is required before this ticket is complete.

**Author:** Chris Johns 2018-04-10T05:14:43.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

#### 4.2.1.551 3083 - parallel make not working

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3083                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2017-07-27T23:08:33.000Z                                                                                            |
| <b>Updated</b>     | 2018-04-09T23:11:56.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::highest, priority::normal, resolution::fixed, rtems::build, ticket-type::defect, version::5               |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3083">https://gitlab.rtems.org/rtems/rtems/-/issues/3083</a> |
| <b>Merges</b>      | 0                                                                                                                   |

As reported on the mailing list, parallel make on the master is broken.

- [0001-build-Provide-system-level-locking-so-only-one-insta.patch](#)

**Author:** Joel Sherrill 2017-07-27T23:08:43.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

**Author:** Chris Johns 2017-08-07T23:35:51.000Z

- **Priority** changed from ~"normal" to ~"highest"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

---

**Author:** Chris Johns 2017-11-13T23:40:38.000Z

---

The list email referenced is <https://lists.rtems.org/pipermail/devel/2017-July/018513.html>

---

**Author:** Chris Johns 2017-11-14T01:56:02.000Z

---

I wonder if this is due to different directories installing the same files at different levels in the build system and this has exposed something present in the build systems. We could see calls for install happening at the same time on the same file and I wonder if the Linux install executable is doing some checking that exposes this issue.

---

**Author:** Chris Johns 2017-11-16T22:02:27.000Z

---

- **Attachment** [0001-build-Provide-system-level-locking-so-only-one-insta.patch](#) added

This patch add support for parallel installs. I have tested it on FreeBSD, Windows, and MacOS. Please test and report back. Make sure you run `./bootstrap -p` in the top RTEMS source directory and you bootstrap `autoconf` and `automake`.

---

**Author:** Chris Johns 2017-11-16T22:09:52.000Z

---

Note, make `install` is broken. I will look at that if this fixes the build issue.

---

**Author:** Chris Johns 2018-04-09T23:11:56.000Z

---

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

This has been fixed with the switch to real parallel building of sub-directories, the removal of pre-installed header files, and now the testsuite has been refactored to use one nested make call per test group.

See: 1. [changeset:”2afb22b7e1ebcbe40373ff7e0efae7d207c655a9/rtems”  
2afb22b7/rtems] 2. [changeset:”900c40730dbec34cd7a6f1c03c80896951bf1b9c/rtems”  
900c4073/rtems]

4.2.1.552 3383 - Require `--enable-rtemsbsp` with `--enable-smp` or `--enable-multiprocessor`

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3383                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2018-04-09T06:06:41.000Z                                                                                                      |
| <b>Updated</b>     | 2018-04-09T22:47:28.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::build, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3383">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3383</a> |
| <b>Merges</b>      | 0                                                                                                                             |

There is a limited number of BSPs that support SMP or MP so using the BSP wildcard will result in a failed build. Require the user provide a BSP.

**Author:** Joel Sherrill 2018-04-09T13:44:55.000Z

- **Summary** changed from *Require `--enable-rtemsbsb` with `--enable-smp` or `--enable-multiprocessor`* to *Require `--enable-rtemsbsp` with `--enable-smp` or `--enable-multiprocessor`*

**Author:** Chris Johns 2018-04-09T22:47:28.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

See [changeset:"e1664027fe334db174ed74372138d3236f89b52c/rtems" e1664027/rtems] for the changeset.

## 4.2.1.553 3385 - Generate an error if RTEMS's gcc is not found when the user runs configure

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3385                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2018-04-09T06:15:46.000Z                                                                                                      |
| <b>Updated</b>     | 2018-04-09T22:22:51.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::build, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3385">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3385</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Generate an error when the user runs configure if one cannot be found in the path.

**Author:** Chris Johns 2018-04-09T06:16:38.000Z

- **Description** changed

```

1 - Generate an error when the user runs configure if one cannot be found_
   ↳ the path.
2 + Generate an error when the user runs configure if one cannot be found_
   ↳ in the path.
3 ?
   ↳ +++

```

- **Summary** changed from *Generate an error is RTEMS's gcc is not found when the user runs configure* to *Generate an error if RTEMS's gcc is not found when the user runs configure*

**Author:** Trac Migrate 2018-04-09T22:22:51.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"9f6f0261c172bee5463bb6724809e8486c9197ea/rtems" 9f6f026/rtems]:

```

1 Generate an error if no valid gcc is found when configure runs.
2
3 Close #3385.

```

#### 4.2.1.554 3354 - PowerPC BSPs duplicate PAGE\_MASK, etc redefinition

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3354                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                       |
| <b>Created</b>     | 2018-03-16T18:29:45.000Z                                                                                            |
| <b>Updated</b>     | 2018-03-29T14:12:26.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:powerpc, priority::normal, resolution::fixed, tickettype::defect, version::5                                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3354">https://gitlab.rtems.org/rtems/rtems/-/issues/3354</a> |
| <b>Merges</b>      | 0                                                                                                                   |

The following BSPs:

powerpc-beatnik powerpc-mcp750 powerpc-mtx603e powerpc-mvme2100 powerpc-mvme2307 powerpc-mvme5500 powerpc-qemuprep-altivec powerpc-qemuprep

use bsp/powerpc/include/libcpu/page.h which defines `_ALIGN`, `PAGE_MASK`, and `PAGE_SIZE`. These are defined by `<machine/param.h>`. I think the solution is to delete the versions in `libcpu/page.h`. Comments appreciated.

```
define PAGE_MASK (~(PAGE_SIZE-1))
```

```
In      file      included      from      /data/home/joel/rtems-work/tools/5/powerpc-
rtems5/include/sys/_cpuset.h:36:0, from /data/home/joel/rtems-work/tools/5/powerpc-
rtems5/include/sys/_cpuset.h:45, from /data/home/joel/rtems-work/tools/5/powerpc-
rtems5/include/sys/_pthreadtypes.h:24, from /data/home/joel/rtems-
work/tools/5/powerpc-rtems5/include/sys/types.h:239, from /data/home/joel/rtems-
work/tools/5/powerpc-rtems5/include/sys/time.h:43, from /home/joel/rtems-work/rtems-
testing/rtems/rtems/cpukit/include/rtems/score/timestamp.h:43, from /home/joel/rtems-
work/rtems-testing/rtems/rtems/cpukit/include/rtems/score/thread.h:36, from
/home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/score/heap.h:22,
from /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/rtems/types.h:26,
from /home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems.h:31, from
../../../../../rtems/c/src/lib/libbsp/powerpc/mvme5500/../../powerpc/shared/startup/pgtbl_setup.c:1
/data/home/joel/rtems-work/tools/5/powerpc-rtems5/include/machine/param.h:70:0: note:
this is the location of the previous definition
```

```
define PAGE_MASK (PAGE_SIZE - 1)
```

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2018-03-29T14:12:26.000Z |
|------------------------------------------------------|

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

```
In      [changeset:"0b8a6d77a894fcfd5ba92b64ae1d66faff57c0c7/rtems"
0b8a6d7/rtems]:
```

```
1 Eliminate PowerPC libcpu/page.h
2
3 Started to eliminate warnings and then realized that only one one-line
4 macro in the file was used by a few files. The rest of the file was
5 was not needed. Eliminate the file.
6
7 Closes #3354.
```

#### 4.2.1.555 3341 - sparc64: Macro Redefined

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3341                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Gedare Bloom                                                                                                        |
| <b>Created</b>     | 2018-03-14T21:08:54.000Z                                                                                            |
| <b>Updated</b>     | 2018-03-23T16:35:50.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:sparc64, priority::normal, resolution::fixed, tickettype::defect, version::5                                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3341">https://gitlab.rtems.org/rtems/rtems/-/issues/3341</a> |
| <b>Merges</b>      | 0                                                                                                                   |



log/sparc64-usiii.log:/home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/sparc64/include/arch/stack.h:  
warning: "STACK\_BIAS" redefined

This is defined in two header files with the same value. Not sure what the proper fix is.

**Author:** Joel Sherrill 2018-03-14T21:09:39.000Z

- **Owner** set to @gedare
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2018-03-23T16:35:50.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d7fd3bc0fc6e4bacd567cea1d12d93626956751b/rtems"  
d7fd3bc/rtems]:

```
1 sparc64: remove header file with duplicated macros
2
3 The boot/stack.h header contains duplicated macros that are
4 redundant to arch/stack.h. Delete the boot/stack.h and replace
5 its one use by the arch/stack.h.
6
7 Closes #3341.
```

#### 4.2.1.556 3182 - CLOCK\_REALTIME timeout implementation is not POSIX compliant

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3182                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-10-12T05:35:17.000Z                                                                                                      |
| <b>Updated</b>     | 2018-03-22T08:06:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, tickettype::defect                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3182">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3182</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Changes of the CLOCK\_REALTIME must trigger absolute timeouts. This is not the case. There is no test for this in RTEMS.

**Author:** Joel Sherrill 2017-10-12T17:34:48.000Z

Original author: sebastian.huber

I think this only can be used via `clock_nanosleep()` or a timeout on a condition variable. Do both not wakeup after a time change on `CLOCK_REALTIME`?

Are there tests for this?

**Author:** Trac Migrate 2017-10-13T08:07:57.000Z

Original author: sebastian.huber

See also:

[http://pubs.opengroup.org/onlinepubs/9699919799/functions/clock\\_settime.html](http://pubs.opengroup.org/onlinepubs/9699919799/functions/clock_settime.html)

Test case (runs on Linux as root):

<https://lists.rtems.org/pipermail/devel/2017-October/019186.html>

**Author:** Trac Migrate 2017-10-13T08:08:28.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 - Changes of the CLOCK_REALTIME must trigger timeouts. This is not the_
   ↳ case. There is no test for this in RTEMS.
2 + Changes of the CLOCK_REALTIME must trigger absolute timeouts. This_
   ↳ is not the case. There is no test for this in RTEMS.
3 ?                                     ++++++++

```

**Author:** Trac Migrate 2017-10-17T06:31:01.000Z

Original author: sebastian.huber

In [changeset:"bf2a53d272107b8b224b1a48694da24d2d042442/rtems"bf2a53d2/rtems]:

```

1 score: Rename watchdog variants
2
3 Rename PER_CPU_WATCHDOG_RELATIVE in PER_CPU_WATCHDOG_MONOTONIC to
4 highlight the corresponding POSIX CLOCK_MONOTONIC.
5
6 Rename PER_CPU_WATCHDOG_ABSOLUTE in PER_CPU_WATCHDOG_REALTIME to
7 highlight the corresponding POSIX CLOCK_REALTIME.
8
9 Update #3117.
10 Update #3182.

```

**Author:** Trac Migrate 2017-10-17T06:31:14.000Z

Original author: sebastian.huber

In [changeset:"91ce012ced085682e271af4bf33e112dc968d4b9/rtems" 91ce012c/rtems]:

```
1 score: Rename _Watchdog_Per_CPU_insert_monotonic()
2
3 Rename _Watchdog_Per_CPU_insert_monotonic() in
4 _Watchdog_Per_CPU_insert_ticks().
5
6 Update #3117.
7 Update #3182.
```

**Author:** Trac Migrate 2017-10-17T11:57:07.000Z

Original author: sebastian.huber

In [changeset:"9a583a94d372afba5a2796189b40f8efa16bcfd4/rtems-libbsd" 9a583a9/rtems-libbsd]:

```
1 SLEEPQUEUE(9): Update due to API changes
2
3 Update #3117.
4 Update #3182.
```

**Author:** Trac Migrate 2017-10-19T12:47:54.000Z

Original author: sebastian.huber

According to POSIX we have for clock\_nanosleep():

[http://pubs.opengroup.org/onlinepubs/9699919799/functions/clock\\_nanosleep.html](http://pubs.opengroup.org/onlinepubs/9699919799/functions/clock_nanosleep.html)

“If, at the time of the call, the time value specified by rqtp is less than or equal to the time value of the specified clock, then clock\_nanosleep() shall return immediately and the calling process shall not be suspended.”

Would it be all right to perform a sched\_yield() in this case? This would make the implementation of the thread queue enqueue a bit easier.

**Author:** Joel Sherrill 2017-10-19T13:03:51.000Z

Original author: sebastian.huber

I think having a time in the past yield is a good solution. Just add it to the documentation in the right spots.

**Author:** Trac Migrate 2017-10-19T13:06:45.000Z

Original author: sebastian.huber

A yield may lead to a pre-emption. I am not sure if this is all right with respect to the “return immediately and the calling process shall not be suspended”.

**Author:** Trac Migrate 2017-10-19T13:40:08.000Z

Original author: sebastian.huber

Why is nanosleep() not implemented as clock\_nanosleep(CLOCK\_REALTIME, 0, rntp, rntp)?

**Author:** Joel Sherrill 2017-10-19T13:44:02.000Z

Original author: sebastian.huber

History. nanosleep has been there much longer.

**Author:** Trac Migrate 2017-10-24T08:20:14.000Z

Original author: sebastian.huber

In [changeset:"d85c94c0d292023b78320fca14956262de7f40c6/rtems" d85c94c0/rtems]:

```
1 psxclockrealtime01: New test
2
3 Update #3182.
```

**Author:** Trac Migrate 2017-10-24T08:20:25.000Z

Original author: sebastian.huber

In [changeset:"028786263f8e23d85723e0751f132401cd4dbc44/rtems" 02878626/rtems]:

```
1 score: Add _Thread_Add_timeout_ticks()
2
3 Replace _Thread_Timer_insert_monotonic() with
4 _Thread_Add_timeout_ticks().
5
6 Update #3117.
7 Update #3182.
```

**Author:** Trac Migrate 2017-10-24T08:20:37.000Z

Original author: sebastian.huber

In [changeset:"27cfe7c86ba0801f4961871869ec4e691ca694f3/rtems" 27cfe7c/rtems]:

```

1 score: Add _Watchdog_Ticks_per_second
2
3 This value is frequently used. Avoid the function call overhead and the
4 integer division at run-time.
5
6 Update #3117.
7 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:20:49.000Z

Original author: sebastian.huber

In [changeset:"e0dc6efcf0f7d6da2cc0ac08303e1382f6bf4e69/rtems" e0dc6ef/rtems]:

```

1 rtems: Simplify RTEMS_MILLISECONDS_TO_MICROSECONDS
2
3 Remove the cast so that it can be used in C pre-processor directives.
4
5 Update #3117.
6 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:21:01.000Z

Original author: sebastian.huber

In [changeset:"381ef5c83393d3707cf74f40f1edc2d0404c3ee6/rtems" 381ef5c/rtems]:

```

1 confdefs: Warn about problematic ticks per second
2
3 A non-integer clock ticks per second value may lead to inaccurate time
4 format conversions.
5
6 Update #3117.
7 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:21:13.000Z

Original author: sebastian.huber

In [changeset:"ecef36987538fe7daf033c0c9344413355d615b1/rtems" ecef3698/rtems]:

```

1 score: Rename _Watchdog_Ticks_from_*( )
2
3 Rename _Watchdog_Ticks_from_*( ) to _Watchdog_Realtime_from_*( ).
4

```

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```

5 This highlights that these routines are used for the CLOCK_REALTIME
6 watchdogs (in contrast to CLOCK_MONOTONIC).
7
8 Update #3117.
9 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:21:25.000Z

Original author: sebastian.huber

In [changeset:"adaf5c232e680630e77c697fafa31dff4f3e1d24/rtems"  
adaf5c23/rtems]:

```

1 score: _Watchdog_Is_far_future_realtime_timespec()
2
3 Update #3117.
4 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:21:36.000Z

Original author: sebastian.huber

In [changeset:"d16d07fbb82132e185835382201243c5eab5417a/rtems"  
d16d07f/rtems]:

```

1 score: Add _Watchdog_Is_valid_interval_timespec()
2
3 Update #3117.
4 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:21:48.000Z

Original author: sebastian.huber

In [changeset:"7ed377bc69e8cf96b989018322dc43bc0f2d2e36/rtems"  
7ed377b/rtems]:

```

1 score: _Watchdog_Is_far_future_monotonic_timespec
2
3 Update #3117.
4 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:22:00.000Z

Original author: sebastian.huber

In [changeset:"cea5ff700166a24b5da300cf0aa6884164600ed3/rtems"  
cea5ff7/rtems]:

```

1 score: Add _Watchdog_Nanoseconds_per_tick
2
3 Move it from the configuration to a separate variable.
4
5 Update #3117.
6 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:22:12.000Z

Original author: sebastian.huber

In [changeset:"b13ec804763d8f428161a50fd1846d567982ed4b/rtems" b13ec80/rtems]:

```

1 score: Add _Watchdog_Monotonic_from_timespec()
2
3 Update #3117.
4 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:22:24.000Z

Original author: sebastian.huber

In [changeset:"57479629094a7b1a13a6fb03c3162cb53367022c/rtems" 5747962/rtems]:

```

1 score: _Watchdog_Per_CPU_lazy_insert_monotonic()
2
3 Update #3117.
4 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:22:36.000Z

Original author: sebastian.huber

In [changeset:"6de1f92121f947f9c379747d66135fd8a500d0f5/rtems" 6de1f92/rtems]:

```

1 score: Add _Thread_Continue()
2
3 Update #3117.
4 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:22:48.000Z

Original author: sebastian.huber

In [changeset:"1666ffe535b5e2ca801dafa13437fc2bd041cd3a/rtems" 1666ffe5/rtems]:

```

1 score: Rename function threadq support function
2
3 Rename _Thread_queue_Context_set_do_nothing_enqueue_callout() into
4 _Thread_queue_Context_set_enqueue_do_nothing_extra(). More
5 _Thread_queue_Context_set_enqueue_*(()) functions will follow.
6
7 Update #3117.
8 Update #3182.
```

**Author:** Trac Migrate 2017-10-24T08:23:00.000Z

Original author: sebastian.huber

In [changeset:"c31058947491ca319c901040219be39e4f8155b6/rtems" c3105894/rtems]:

```

1 score: Move thread queue timeout handling
2
3 Update #3117.
4 Update #3182.
```

**Author:** Trac Migrate 2017-10-25T05:54:30.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"c5161ee2f30e124c3190694962d2e1aeea5b102c/rtems-docs" c5161ee/rtems-docs]:

```

1 posix-users: Clarify timed operation errors
2
3 Close #3182.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

**Author:** Trac Migrate 2018-03-22T07:43:06.000Z

Original author: sebastian.huber



In [changeset:"3da2f4711d3691716b9f0b468978fe43cdc91df8/rtems" 3da2f471/rtems]:

```
1 mpci: Update due to thread queue API changes
2
3 Update #3117.
4 Update #3182.
```

**Author:** Trac Migrate 2018-03-22T08:06:14.000Z

Original author: sebastian.huber

In [changeset:"7353422fc350c29f08a757696d25fdb38a297bef/rtems" 7353422f/rtems]:

```
1 mpci: Fix _MPCI_Enqueue_callout()
2
3 Update #3117.
4 Update #3182.
```

#### 4.2.1.557 3117 - score: Optimize \_Thread\_queue\_Enqueue() timeout handling

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3117                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-08-24T09:51:38.000Z                                                                                            |
| <b>Updated</b>     | 2018-03-22T08:06:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3117">https://gitlab.rtems.org/rtems/rtems/-/issues/3117</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Use the `Thread_queue_Context::enqueue_callout` to do the timeout handling. This avoids the switch statement in `_Thread_queue_Timeout()`. It removes the thread queue dependency to `_Thread_Timeout()`.

**Author:** Trac Migrate 2017-08-24T09:52:09.000Z

Original author: sebastian.huber

- **Summary** changed from *score: Optimize \_Thread\_queue\_Enqueue()* to *score: Optimize \_Thread\_queue\_Enqueue() timeout handling*

**Author:** Trac Migrate 2017-10-09T12:18:01.000Z

Original author: sebastian.huber

- **Milestone** changed from %”Indefinite” to %”4.12.0”
- **Status** changed from *assigned* to *accepted*

**Author:** Trac Migrate 2017-10-17T06:31:01.000Z

Original author: sebastian.huber

In [changeset:”bf2a53d272107b8b224b1a48694da24d2d042442/rtems”  
bf2a53d2/rtems]:

```

1 score: Rename watchdog variants
2
3 Rename PER_CPU_WATCHDOG_RELATIVE in PER_CPU_WATCHDOG_MONOTONIC to
4 highlight the corresponding POSIX CLOCK_MONOTONIC.
5
6 Rename PER_CPU_WATCHDOG_ABSOLUTE in PER_CPU_WATCHDOG_REALTIME to
7 highlight the corresponding POSIX CLOCK_REALTIME.
8
9 Update #3117.
10 Update #3182.
```

**Author:** Trac Migrate 2017-10-17T06:31:14.000Z

Original author: sebastian.huber

In [changeset:”91ce012ced085682e271af4bf33e112dc968d4b9/rtems”  
91ce012c/rtems]:

```

1 score: Rename _Watchdog_Per_CPU_insert_monotonic()
2
3 Rename _Watchdog_Per_CPU_insert_monotonic() in
4 _Watchdog_Per_CPU_insert_ticks().
5
6 Update #3117.
7 Update #3182.
```

**Author:** Trac Migrate 2017-10-17T11:57:07.000Z

Original author: sebastian.huber

In [changeset:”9a583a94d372afba5a2796189b40f8efa16bcfd4/rtems-libbsd”  
9a583a9/rtems-libbsd]:

```

1 SLEEPQUEUE(9): Update due to API changes
2
3 Update #3117.
4 Update #3182.
```

**Author:** Trac Migrate 2017-10-24T08:20:25.000Z

Original author: sebastian.huber

In [changeset:"028786263f8e23d85723e0751f132401cd4dbc44/rtems" 02878626/rtems]:

```
1 score: Add _Thread_Add_timeout_ticks()
2
3 Replace _Thread_Timer_insert_monotonic() with
4 _Thread_Add_timeout_ticks().
5
6 Update #3117.
7 Update #3182.
```

**Author:** Trac Migrate 2017-10-24T08:20:37.000Z

Original author: sebastian.huber

In [changeset:"27cfe7c86ba0801f4961871869ec4e691ca694f3/rtems" 27cfe7c/rtems]:

```
1 score: Add _Watchdog_Ticks_per_second
2
3 This value is frequently used. Avoid the function call overhead and the
4 integer division at run-time.
5
6 Update #3117.
7 Update #3182.
```

**Author:** Trac Migrate 2017-10-24T08:20:49.000Z

Original author: sebastian.huber

In [changeset:"e0dc6efcf0f7d6da2cc0ac08303e1382f6bf4e69/rtems" e0dc6ef/rtems]:

```
1 rtems: Simplify RTEMS_MILLISECONDS_TO_MICROSECONDS
2
3 Remove the cast so that it can be used in C pre-processor directives.
4
5 Update #3117.
6 Update #3182.
```

**Author:** Trac Migrate 2017-10-24T08:21:01.000Z

Original author: sebastian.huber

In [changeset:"381ef5c83393d3707cf74f40f1edc2d0404c3ee6/rtems" 381ef5c/rtems]:

```

1 confdefs: Warn about problematic ticks per second
2
3 A non-integer clock ticks per second value may lead to inaccurate time
4 format conversions.
5
6 Update #3117.
7 Update #3182.
```

**Author:** Trac Migrate 2017-10-24T08:21:13.000Z

Original author: sebastian.huber

In [changeset:"ecef36987538fe7daf033c0c9344413355d615b1/rtems" ecef3698/rtems]:

```

1 score: Rename _Watchdog_Ticks_from_*( )
2
3 Rename _Watchdog_Ticks_from_*( ) to _Watchdog_Realtime_from_*( ).
4
5 This highlights that these routines are used for the CLOCK_REALTIME
6 watchdogs (in contrast to CLOCK_MONOTONIC).
7
8 Update #3117.
9 Update #3182.
```

**Author:** Trac Migrate 2017-10-24T08:21:25.000Z

Original author: sebastian.huber

In [changeset:"adaf5c232e680630e77c697fafa31dff4f3e1d24/rtems" adaf5c23/rtems]:

```

1 score: _Watchdog_Is_far_future_realtime_timespec( )
2
3 Update #3117.
4 Update #3182.
```

**Author:** Trac Migrate 2017-10-24T08:21:36.000Z

Original author: sebastian.huber

In [changeset:"d16d07fbb82132e185835382201243c5eab5417a/rtems" d16d07f/rtems]:

```

1 score: Add _Watchdog_Is_valid_interval_timespec( )
2
```

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```

3 Update #3117.
4 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:21:48.000Z

Original author: sebastian.huber

In [changeset:"7ed377bc69e8cf96b989018322dc43bc0f2d2e36/rtems"7ed377b/rtems]:

```

1 score: _Watchdog_Is_far_future_monotonic_timespec
2
3 Update #3117.
4 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:22:00.000Z

Original author: sebastian.huber

In [changeset:"cea5ff700166a24b5da300cf0aa6884164600ed3/rtems"cea5ff7/rtems]:

```

1 score: Add _Watchdog_Nanoseconds_per_tick
2
3 Move it from the configuration to a separate variable.
4
5 Update #3117.
6 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:22:12.000Z

Original author: sebastian.huber

In [changeset:"b13ec804763d8f428161a50fd1846d567982ed4b/rtems"b13ec80/rtems]:

```

1 score: Add _Watchdog_Monotonic_from_timespec()
2
3 Update #3117.
4 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:22:24.000Z

Original author: sebastian.huber

In [changeset:"57479629094a7b1a13a6fb03c3162cb53367022c/rtems"5747962/rtems]:

```

1 score: _Watchdog_Per_CPU_lazy_insert_monotonic()
2
3 Update #3117.
4 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:22:36.000Z

Original author: sebastian.huber

In [changeset:"6de1f92121f947f9c379747d66135fd8a500d0f5/rtems" 6de1f92/rtems]:

```

1 score: Add _Thread_Continue()
2
3 Update #3117.
4 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:22:48.000Z

Original author: sebastian.huber

In [changeset:"1666ffe535b5e2ca801dafa13437fc2bd041cd3a/rtems" 1666ffe5/rtems]:

```

1 score: Rename function threadq support function
2
3 Rename _Thread_queue_Context_set_do_nothing_enqueue_callout() into
4 _Thread_queue_Context_set_enqueue_do_nothing_extra(). More
5 _Thread_queue_Context_set_enqueue_*(()) functions will follow.
6
7 Update #3117.
8 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:23:00.000Z

Original author: sebastian.huber

In [changeset:"c31058947491ca319c901040219be39e4f8155b6/rtems" c3105894/rtems]:

```

1 score: Move thread queue timeout handling
2
3 Update #3117.
4 Update #3182.

```

**Author:** Trac Migrate 2017-10-24T08:52:31.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

**Author:** Trac Migrate 2017-10-24T10:20:24.000Z

Original author: sebastian.huber

In [changeset:"2fcf5aadd584c08066ddc03b9b4f79eaf17d9d24/rtems-libbsd" 2fcf5aa/rtems-libbsd]:

```
1 rtems-bsd-mutex: Update due to API changes
2
3 Update #3117.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

**Author:** Trac Migrate 2018-03-22T07:43:06.000Z

Original author: sebastian.huber

In [changeset:"3da2f4711d3691716b9f0b468978fe43cdc91df8/rtems" 3da2f471/rtems]:

```
1 mpci: Update due to thread queue API changes
2
3 Update #3117.
4 Update #3182.
```

**Author:** Trac Migrate 2018-03-22T08:06:14.000Z

Original author: sebastian.huber

In [changeset:"7353422fc350c29f08a757696d25fdb38a297bef/rtems" 7353422f/rtems]:

```
1 mpci: Fix _MPCI_Enqueue_callout()
2
3 Update #3117.
4 Update #3182.
```

## 4.2.1.558 3220 - Change RTEMS release number scheme from 4.12 to 5

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3220                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-11-09T06:11:33.000Z                                                                                                      |
| <b>Updated</b>     | 2018-03-21T06:55:18.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::project, version::5                                                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3220">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3220</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

As discussed here

<https://lists.rtems.org/pipermail/devel/2017-October/019169.html>

it was agreed to use version 5.1 with the new number scheme for the next RTEMS release.

Most important items of this release:

- SMP support
- 64-bit time\_t (year 2038 problem)
- the network stack header consolidation and the move to Newlib
- self-contained POSIX synchronization objects (impacting the configuration)
- improved Ada support (however, not all Ada tests pass currently)

The following steps are necessary to carry out the number change:

1. ~~Change version of RTEMS tools~~
2. ~~Change version of RSB~~
3. ~~Change version of RTEMS~~
4. ~~Documentation repo. Easy.~~
5. ~~Documentation website repo. Easy.~~
6. Release procedure repo. Easy.
7. ~~Trac tickets. Not sure.~~
8. ~~Trac wiki. Medium(?). A wiki search of 4.12 gives 21 hits.~~
9. rtems.org website. That needs Joel.
10. Make announcement on the devel and user mailing list

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-09T06:11:43.000Z |
|------------------------------------------------------|

Original author: sebastian.huber



- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-11-09T06:11:51.000Z

Original author: sebastian.huber

- **Status** changed from *assigned* to *accepted*

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

**Author:** Trac Migrate 2017-11-09T06:29:50.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 As discussed here
2
3 https://lists.rtems.org/pipermail/devel/2017-October/019169.html
4
5 it was agreed to use version 5.1 with the new number scheme for the
6 ↪ next RTEMS release.
7
8 Most important items of this release:
9
10 * SMP support
11 * 64-bit time_t (year 2038 problem)
12 * the network stack header consolidation and the move to Newlib
13 ↪ self-contained POSIX synchronization objects (impacting the
14 ↪ configuration)
15 * improved Ada support (however, not all Ada tests pass currently)
16
17 The following steps are necessary to carry out the number change:
18
19 1. Change version of RTEMS tools
20 2. Change version of RSB
21 3. Change version of RTEMS
22 4. Documentation repo. Easy.
23 5. Documentation website repo. Easy.
24 6. Release procedure repo. Easy.
25 - 7. Trac tickets. Not sure.

```

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```

24 + 7. ~~Trac tickets. Not sure.~~
25 ?      ++                      ++
26
27 8. Trac wiki. Medium(?). A wiki search of 4.12 gives 21 hits.
28 9. rtems.org website. That needs Joel.

```

Trac update done.

**Author:** Trac Migrate 2017-11-09T07:03:21.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 As discussed here
2
3 https://lists.rtems.org/pipermail/devel/2017-October/019169.html
4
5 it was agreed to use version 5.1 with the new number scheme for the
6 ↪next RTEMS release.
7
8 Most important items of this release:
9
10 * SMP support
11 * 64-bit time_t (year 2038 problem)
12 * the network stack header consolidation and the move to Newlib
13 * self-contained POSIX synchronization objects (impacting the
14 ↪configuration)
15 * improved Ada support (however, not all Ada tests pass currently)
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17 The following steps are necessary to carry out the number change:
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19 1. Change version of RTEMS tools
20 2. Change version of RSB
21 3. Change version of RTEMS
22 4. Documentation repo. Easy.
23 5. Documentation website repo. Easy.
24 6. Release procedure repo. Easy.
25 7. ~~Trac tickets. Not sure.~~
26 - 8. Trac wiki. Medium(?). A wiki search of 4.12 gives 21 hits.
27 + 8. ~~Trac wiki. Medium(?). A wiki search of 4.12 gives 21 hits.~~
28 ?      ++                      ++
29
30 9. rtems.org website. That needs Joel.

```

Wiki update done:

<https://devel.rtems.org/search?q=4.12&noquickjump=1&wiki=on>

**Author:** Trac Migrate 2017-11-09T07:06:37.000Z

Original author: sebastian.huber

In [changeset:"e5dad3cfedc05b9da24e5e9de901cea6ea5001e2/rtems-tools" e5dad3c/rtems-tools]:

```
1 Change RTEMS version from 4.12 to 5
2
3 Update #3220.
```

**Author:** Trac Migrate 2017-11-09T07:09:27.000Z

Original author: sebastian.huber

In [changeset:"637061c0bb8e8aebec8c7e6121c3581f6df2a82a/rtems-source-builder" 637061c/rtems-source-builder]:

```
1 Change RTEMS version from 4.12 to 5
2
3 Update #3220.
```

**Author:** Trac Migrate 2017-11-09T07:09:48.000Z

Original author: sebastian.huber

In [changeset:"089327b5dcf944bfc1d8d7f1ad1d30330088da72/rtems-source-builder" 089327b/rtems-source-builder]:

```
1 Change RSB version from 4.12 to 5
2
3 Update #3220.
```

**Author:** Trac Migrate 2017-11-09T07:15:40.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```
1 As discussed here
2
3 https://lists.rtems.org/pipermail/devel/2017-October/019169.html
4
5 it was agreed to use version 5.1 with the new number scheme for the
6 ↪ next RTEMS release.
```

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```

7 Most important items of this release:
8
9 * SMP support
10 * 64-bit time_t (year 2038 problem)
11 * the network stack header consolidation and the move to Newlib
12 * self-contained POSIX synchronization objects (impacting the
    ↪ configuration)
13 * improved Ada support (however, not all Ada tests pass currently)
14
15 The following steps are necessary to carry out the number change:
16
17 - 1. Change version of RTEMS tools
18 + 1. ~~Change version of RTEMS tools~~
19 ?    ++                      ++
20
21 - 2. Change version of RSB
22 + 2. ~~Change version of RSB~~
23 ?    ++                      ++
24
25 - 3. Change version of RTEMS
26 + 3. ~~Change version of RTEMS~~
27 ?    ++                      ++
28
29 4. Documentation repo. Easy.
30 5. Documentation website repo. Easy.
31 6. Release procedure repo. Easy.
32 7. ~~Trac tickets. Not sure.~~
33 8. ~~Trac wiki. Medium(?)?. A wiki search of 4.12 gives 21 hits.~~
34 9. rtems.org website. That needs Joel.

```

[4a14751879f61ba7a045a1fcc7ff485a88dcb51d/rtems]

**Author:** Trac Migrate 2017-11-09T07:44:54.000Z

Original author: sebastian.huber

In [changeset:"aff8c471580f91e38aa8e9c8dc7d396cd5a14e16/rtems-tools"  
aff8c47/rtems-tools]:

```

1 Add tools/5 patch
2
3 Update #3220.

```

**Author:** Trac Migrate 2017-11-09T08:05:35.000Z

Original author: sebastian.huber

In [changeset:"b5a4b156fac4363decc662a0b4373702dd489d16/rtems-tools"  
b5a4b15/rtems-tools]:

```
1 Add tools/5 patch
2
3 Update #3220.
```

**Author:** Trac Migrate 2017-11-09T08:17:04.000Z

Original author: sebastian.huber

In [changeset:"2da13568ddc41fdeb6e8ddf067bd550bb8753bd8/rtems-tools"  
2da1356/rtems-tools]:

```
1 Add tools/5 patches
2
3 Update #3220.
```

**Author:** Trac Migrate 2017-11-09T08:26:23.000Z

Original author: sebastian.huber

In [changeset:"52f379028281ee532561ccd2e4f1590e18bf2951/rtems-tools"  
52f3790/rtems-tools]:

```
1 Add tools/5 patch
2
3 Update #3220.
```

**Author:** Trac Migrate 2017-11-09T08:35:50.000Z

Original author: sebastian.huber

In [changeset:"a70b8e609b6b26c94c131d6e902d5fa6de391648/rtems-tools"  
a70b8e6/rtems-tools]:

```
1 Add tools/5 patch
2
3 Update #3220.
```

**Author:** Trac Migrate 2017-11-09T08:41:55.000Z

Original author: sebastian.huber

In [changeset:"469e3623303aa97be6cbbc7e27058c1ae232f8aa/rtems-tools"  
469e362/rtems-tools]:

```
1 Add tools/5 patches
2
3 Update #3220.
```

**Author:** Trac Migrate 2017-11-09T09:24:34.000Z

Original author: sebastian.huber

In [changeset:"60a6d6eae95ad49b9ddf53c6767f22aa4b3897a2/rtems-docs" 60a6d6e/rtems-docs]:

```
1 Change RTEMS version to 5
2
3 Update #3220.
```

**Author:** Trac Migrate 2017-11-09T09:25:36.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```
1 As discussed here
2
3 https://lists.rtems.org/pipermail/devel/2017-October/019169.html
4
5 it was agreed to use version 5.1 with the new number scheme for the
6 ↪next RTEMS release.
7
8 Most important items of this release:
9
10 * SMP support
11 * 64-bit time_t (year 2038 problem)
12 * the network stack header consolidation and the move to Newlib
13 * self-contained POSIX synchronization objects (impacting the
14 ↪configuration)
15 * improved Ada support (however, not all Ada tests pass currently)
16
17 The following steps are necessary to carry out the number change:
18
19 1. ~~Change version of RTEMS tools~~
20 2. ~~Change version of RSB~~
21 3. ~~Change version of RTEMS~~
22 - 4. Documentation repo. Easy.
23 + 4. ~~Documentation repo. Easy.~~
24 ?    ++                ++
25
26 5. Documentation website repo. Easy.
27 6. Release procedure repo. Easy.
28 7. ~~Trac tickets. Not sure.~~
29 8. ~~Trac wiki. Medium(?). A wiki search of 4.12 gives 21 hits.~~
30 9. rtems.org website. That needs Joel.
31 + 10. Make announcement on the mailing devel and user mailing list
```

**Author:** Trac Migrate 2017-11-09T09:26:10.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 As discussed here
2
3 https://lists.rtems.org/pipermail/devel/2017-October/019169.html
4
5 it was agreed to use version 5.1 with the new number scheme for the
6 ↪next RTEMS release.
7
8 Most important items of this release:
9
10 * SMP support
11 * 64-bit time_t (year 2038 problem)
12 * the network stack header consolidation and the move to Newlib
13 * self-contained POSIX synchronization objects (impacting the
14 ↪configuration)
15 * improved Ada support (however, not all Ada tests pass currently)
16
17 The following steps are necessary to carry out the number change:
18
19 1. ~~Change version of RTEMS tools~~
20 2. ~~Change version of RSB~~
21 3. ~~Change version of RTEMS~~
22 4. ~~Documentation repo. Easy.~~
23 5. Documentation website repo. Easy.
24 6. Release procedure repo. Easy.
25 7. ~~Trac tickets. Not sure.~~
26 8. ~~Trac wiki. Medium(?). A wiki search of 4.12 gives 21 hits.~~
27 9. rtems.org website. That needs Joel.
28 - 10. Make announcement on the mailing devel and user mailing list
29 + 10. Make announcement on the devel and user mailing list

```

**Author:** Trac Migrate 2017-11-09T13:29:24.000Z

Original author: sebastian.huber

In [changeset:"b15a71914d7474f426b130335c3a92d44793b868/rtems-libbsd" b15a719/rtems-libbsd]:

```

1 Change RTEMS version to 5
2
3 Update #3220.

```

**Author:** Trac Migrate 2017-11-10T08:39:09.000Z

Original author: sebastian.huber

In [changeset:"9f34b38edf2a235e8d41c3265b146b0b1a4da252/rtems-tools" 9f34b38/rtems-tools]:

```
1 Remove tools/5 patches
2
3 Update #3220.
```

**Author:** Trac Migrate 2017-11-13T08:01:56.000Z

Original author: sebastian.huber

In [changeset:"cb406870aa62fd3c20dc1f517c06bc3a285bb04b/rtems" cb40687/rtems]:

```
1 Change RTEMS_API from 5.0 to 5
2
3 This fixes the legacy Makefile based build system which expects
4 RTEMS_API to be identical to the tool chain version.
5
6 Update #3220.
```

**Author:** Trac Migrate 2017-11-23T07:53:51.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```
1 As discussed here
2
3 https://lists.rtems.org/pipermail/devel/2017-October/019169.html
4
5 it was agreed to use version 5.1 with the new number scheme for the
6 ↪next RTEMS release.
7
8 Most important items of this release:
9
10 * SMP support
11 * 64-bit time_t (year 2038 problem)
12 * the network stack header consolidation and the move to Newlib
13 * self-contained POSIX synchronization objects (impacting the
14 ↪configuration)
15 * improved Ada support (however, not all Ada tests pass currently)
16
17 The following steps are necessary to carry out the number change:
18
19 1. ~~Change version of RTEMS tools~~
```

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```

18 2. ~~Change version of RSB~~
19 3. ~~Change version of RTEMS~~
20 4. ~~Documentation repo. Easy.~~
21 - 5. Documentation website repo. Easy.
22 + 5. ~~Documentation website repo. Easy.~~
23 ?    ++                                ++
24
25 6. Release procedure repo. Easy.
26 7. ~~Trac tickets. Not sure.~~
27 8. ~~Trac wiki. Medium(?). A wiki search of 4.12 gives 21 hits.~~
28 9. rtems.org website. That needs Joel.
29 10. Make announcement on the devel and user mailing list

```

**Author:** Trac Migrate 2017-12-06T18:21:41.000Z

Original author: sebastian.huber

In [changeset:"9526b0349c0ed24f17f8b1b4a112851cc52b8dd3/rtems" 9526b034/rtems]:

```

1 confdefs: Replace RTEMS 4.12 with 5.1
2
3 Update #3220.

```

**Author:** Trac Migrate 2018-03-21T06:55:18.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

I think the version change is complete.

4.2.1.559 3327 - Eliminate score/cpu/\*/\*.../types.h

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3327                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2018-03-08T17:22:23.000Z                                                                                            |
| <b>Updated</b>     | 2018-03-21T06:51:40.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3327">https://gitlab.rtems.org/rtems/rtems/-/issues/3327</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Each port contains a `types.h` file. It universally defines one type (`CPU_Uint32ptr`) that is required. Some of the `types.h` files define a CPU specific simple vectored ISR handler prototype.

- Move the `CPU_Uint32ptr` typedef to `cpu.h`
- If unused, delete the ISR handler prototype. If used, move to `cpu.h`

**Author:** Trac Migrate 2018-03-12T19:30:07.000Z

In [changeset:"c2282d6dca5104ddcd061a033f632bc09daada8d/rtems" c2282d6d/rtems]:

```
1 sparc/include/rtems/score/types.h: Eliminate this file
2
3 Updates #3327.
```

**Author:** Trac Migrate 2018-03-21T06:51:40.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

4.2.1.560 3267 - rtems/status-checks.h calls `printk` without including the needed header.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3267                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-12-27T02:22:40.000Z                                                                                                      |
| <b>Updated</b>     | 2018-03-21T06:49:56.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | library, priority::normal, resolution::fixed, tickettype::defect, version::5                                                  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3267">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3267</a> |
| <b>Merges</b>      | 0                                                                                                                             |

```
1 /opt/work/chris/rtems/kernel/rtems.git/cpukit/include/rtems/status-checks.h:74:7:
   ↳ warning: implicit declaration of function 'printk'; did you mean 'printf'? [-
   ↳ Wimplicit-function-declaration]
2 printk( fmt, ##__VA_ARGS__)
3 ^
4 /opt/work/chris/rtems/kernel/rtems.git/cpukit/include/rtems/status-checks.h:86:3:
   ↳ note: in expansion of macro 'RTEMS_SYSLOG_PRINT'
5 RTEMS_SYSLOG_PRINT( "%s: " fmt, __func__, ##__VA_ARGS__)
6 ~~~~~~
7 /opt/work/chris/rtems/kernel/rtems.git/cpukit/include/rtems/status-checks.
   ↳ h:107:3: note: in expansion of macro 'RTEMS_SYSLOG'
8 RTEMS_SYSLOG( "Error: " fmt, ##__VA_ARGS__)
9 ~~~~~~
```

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```

10 /opt/work/chris/rtems/kernel/rtems.git/cpukit/include/rtems/status-checks.
    ↳h:113:3: note: in expansion of macro 'RTEMS_SYSLOG_ERROR'
11 RTEMS_SYSLOG_ERROR( "SC = %i: %s\\n", (int) sc, msg);
12 ^~~~~~
13 /opt/work/chris/rtems/kernel/rtems.git/cpukit/include/rtems/status-checks.
    ↳h:152:5: note: in expansion of macro 'RTEMS_SYSLOG_ERROR_WITH_SC'
14 RTEMS_SYSLOG_ERROR_WITH_SC( sc, msg); \\
15 ^~~~~~
16 /opt/work/chris/rtems/kernel/rtems.git/c/src/lib/libbsp/lm32/milkymist/../../lm32/
    ↳shared/milkymist_gpio/gpio.c:57:5: note: in expansion of macro 'RTEMS_CHECK_SC'
17 RTEMS_CHECK_SC(sc, "create GPIO device");
18 ^~~~~~

```

**Author:** Chris Johns 2017-12-27T02:55:00.000Z

<https://git.rtems.org/chrisj/rtems.git/commit/?h=no-preinstall&id=8d355aaf02669edec4e4d2f5d1100b4253637af5>

**Author:** Trac Migrate 2018-03-21T06:49:56.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

#### 4.2.1.561 3352 - Warning in all lpc176x variants

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3352                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2018-03-16T16:50:30.000Z                                                                                            |
| <b>Updated</b>     | 2018-03-21T06:43:55.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::5                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3352">https://gitlab.rtems.org/rtems/rtems/-/issues/3352</a> |
| <b>Merges</b>      | 0                                                                                                                   |

bsps/arm/lpc176x/include/bsp.h defines OPERATION\_COUNT in an attempt to override the autoconf generated constant. This conflicts and results in this warning:

```
/home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/arm/lpc176x/include/bsp.h:42:0:
warning: "OPERATION_COUNT" redefined
```

I understand why this is lowered by the BSP but the mechanism used is not good. And if the include file order is different between tests, you could get the BSP value or the autoconf generated value based on the order.

This warning needs to be fixed and a safer mechanism for a BSP to override `OPERATION_COUNT` defined.

My first suggestion is to use `BSP_OPERATION_COUNT` and add logic to one of the common test .h files to undef `OPERATION_COUNT` and redefine it to `BSP_OPERATION_COUNT` if it is defined.

A safer option might be to change the name of the autoconf generated variable to `OPERATION_COUNT_DEFAULT` and rely on logic in a common test support .h to define `OPERATION_COUNT` to `OPERATION_COUNT_DEFAULT` or `BSP_OPERATION_DEFAULT`.

---

**Author:** Joel Sherrill    2018-03-16T16:51:10.000Z

---

- **Milestone** set to %”5.1”
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*
- **Version** set to ~”5”

---

**Author:** Trac Migrate    2018-03-19T06:05:39.000Z

---

This BSP is not from me. It was added with a promise to merge into the lpc24xx BSP. I tend to remove it.

---

**Author:** Trac Migrate    2018-03-19T06:11:31.000Z

---

<https://lists.rtems.org/pipermail/devel/2014-June/007110.html>

Maybe we should just consider this BSP as unmaintained.

---

**Author:** Trac Migrate    2018-03-21T06:43:55.000Z

---

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”26623e37fd9051ef17c029fb115988c9959c814c/rtems”  
26623e3/rtems]:

```

1 bsp/lpc176x: Remove blunt OPERATION_COUNT define
2
3 BSP-specific test customization needs a more sophisticated approach.
4
5 Close #3352.
```

## 4.2.1.562 3085 - Add hypervisor support for QorIQ BSPs

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3085                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-07-28T08:08:56.000Z                                                                                                      |
| <b>Updated</b>     | 2018-03-20T06:42:19.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:powerpc, bsp, priority::normal, resolution::fixed, ticket-type::enhancement, version::4.12, version::5                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3085">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3085</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

NXP provides a hypervisor (Topaz) for the QorIQ platform.

<https://www.xes-inc.com/wp-content/uploads/2016/03/NXP-Embedded-Hypervisor-for-QorIQ-Overview.pdf>

**Author:** Trac Migrate 2017-07-28T08:49:28.000Z

Original author: sebastian.huber

In [changeset:"b615e9b3eee2608ec9982c16f9cf4551124f4c4e/rtems" b615e9b/rtems]:

```

1 bsp/qorIQ: Simplify initialization
2
3 Do not flush/invalidate the caches. Instead enable the cache during the
4 low-level initialization and perform an explicit cache flush for the
5 read-only and fast-text sections.
6
7 Update #3082.
8 Update #3085.
```

**Author:** Trac Migrate 2017-07-28T08:49:42.000Z

Original author: sebastian.huber

In [changeset:"0db7c550aca1520899702cd170738481096af667/rtems" 0db7c55/rtems]:

```

1 bsp/qorIQ: New BSP names
2
3 Due to the FDT support we can now reduce the BSP variants. Use the
4 processor core to define the BSP variants.
5
```

(continues on next page)

(continued from previous page)

6 Update #3082.  
7 Update #3085.

**Author:** Trac Migrate 2017-07-28T13:40:58.000Z

Original author: sebastian.huber

In [changeset:"8966e8a3a07d341adf1c539e985c2c82202f6c96/rtems" 8966e8a/rtems]:

1 bsp/qorIQ: Fix pre-processor expansion  
2  
3 Update #3082.  
4 Update #3085.

**Author:** Trac Migrate 2017-07-31T12:46:02.000Z

Original author: sebastian.huber

In [changeset:"a597984b991a000bbd9aa9b3fe1b7c3365cc3c50/rtems" a597984/rtems]:

1 powerpc: Add register defines  
2  
3 Update #3082.  
4 Update #3085.

**Author:** Trac Migrate 2017-09-12T08:01:28.000Z

Original author: sebastian.huber

In [changeset:"458179f19e83dd8b57d8f7f0e87e85c385465e76/rtems" 458179f1/rtems]:

1 bsp/qorIQ: Remove console stuff from bsp\_start()  
2  
3 Update #3085.

**Author:** Trac Migrate 2017-09-12T08:01:41.000Z

Original author: sebastian.huber

In [changeset:"20fc4f95aabc835e4734acbc7bb014f656640d40/rtems" 20fc4f9/rtems]:

```

1 bsp/qorIQ: Add QORIQ_IS_HYPERVISOR_GUEST
2
3 Update #3085.

```

**Author:** Trac Migrate 2017-09-12T08:01:53.000Z

Original author: sebastian.huber

In [changeset:"0ce5bfb984724a6034be7ca8ff7f7a5b4ab39925/rtems"  
0ce5bfb/rtems]:

```

1 bsp/qorIQ: Do not touch MMU as hypervisor guest
2
3 Update #3085.

```

**Author:** Trac Migrate 2017-09-12T08:02:05.000Z

Original author: sebastian.huber

In [changeset:"b742de24c07b40013ca71f3c268a5928709b1506/rtems"  
b742de2/rtems]:

```

1 bsp/qorIQ: Boot page translation
2
3 Do not mingle with the boot page translation as hypervisor guest.
4
5 Update #3085.

```

**Author:** Trac Migrate 2017-09-12T08:02:17.000Z

Original author: sebastian.huber

In [changeset:"0d51c05bb61e83613fd9f01c717baec3c9636e32/rtems"  
0d51c05/rtems]:

```

1 bsp/qorIQ: Import ePAPR hcalls from Linux 4.12
2
3 Update #3085.

```

**Author:** Trac Migrate 2017-09-12T08:02:30.000Z

Original author: sebastian.huber

In [changeset:"356b1b8516bc16467feacf54ad0b602bee8261d1/rtems"  
356b1b85/rtems]:

```

1 bsp/qorIQ: Port ePAPR hcall interface to RTEMS
2
3 Update #3085.

```

**Author:** Trac Migrate 2017-09-12T08:02:42.000Z

Original author: sebastian.huber

In [changeset:"134fe569018f0cf959187757ab8516c20e4338d5/rtems" 134fe56/rtems]:

```

1 bsp/qorIQ: Add byte channel console driver
2
3 Update #3085.

```

**Author:** Trac Migrate 2017-09-12T08:02:54.000Z

Original author: sebastian.huber

In [changeset:"df62e51974e2f6919315baa859f39d1d8c3ae7f3/rtems" df62e51/rtems]:

```

1 bsp/qorIQ: Virtual interrupt controller support
2
3 Update #3085.

```

**Author:** Trac Migrate 2017-09-19T12:36:04.000Z

Original author: sebastian.huber

In [changeset:"599e6fbdd8b12ba4a876545c8d809cd3ac4dd272/rtems" 599e6fbd/rtems]:

```

1 bsps/powerpc: PPC_EXC_CONFIG_USE_FIXED_HANDLER
2
3 Make PPC_EXC_CONFIG_USE_FIXED_HANDLER mandatory for BSPs using
4 ppc_exc_interrupt(). Pass exception number to bsp_interrupt_dispatch()
5 to allow processing of decremented and doorbell exceptions as hypervisor
6 guest.
7
8 Update #3085.

```

**Author:** Trac Migrate 2017-09-19T12:36:17.000Z

Original author: sebastian.huber

In [changeset:"fd70e20621e652f7bd6553ad4e0c39d6c5eccfdc/rtems" fd70e206/rtems]:



```
1 bsp/qorik: Add early debug output initialization
2
3 Update #3085.
```

**Author:** Trac Migrate 2017-09-19T12:36:29.000Z

Original author: sebastian.huber

In [changeset:"ec28f31138bd0becb9d199c51369b8cba2951ab7/rtems"  
ec28f31/rtems]:

```
1 bsp/qorik: Add decremter clock driver
2
3 Update #3085.
```

**Author:** Trac Migrate 2017-09-19T12:36:41.000Z

Original author: sebastian.huber

In [changeset:"44c011439cc56c74e70943a2851ea54b62bd0a4a/rtems"  
44c0114/rtems]:

```
1 bsp/qorik: Reduce static memory demands
2
3 Update #3085.
```

**Author:** Trac Migrate 2017-09-19T12:36:52.000Z

Original author: sebastian.huber

In [changeset:"6600882b193acf2c13df3cc94f39d5138aaaf730/rtems"  
6600882b/rtems]:

```
1 bsp/qorik: Avoid MAS8 access as hypervisor guest
2
3 Update #3085.
```

**Author:** Trac Migrate 2017-09-19T12:37:04.000Z

Original author: sebastian.huber

In [changeset:"2720fbf0c2f8776a1c508f380beb21c8325e135b/rtems"  
2720fbf0/rtems]:

```
1 bsp/qorik: Avoid IVOR38..42 access as hv guest
2
3 Update #3085.
```

**Author:** Trac Migrate 2017-09-19T12:37:15.000Z

Original author: sebastian.huber

In [changeset:"31540bfb81bb90b2aca8200b607c69f53ebab7b5/rtems" 31540bf/rtems]:

```
1 bsp/qorIQ: MMU configuration as hypervisor guest
2
3 Re-enable MMU configuration as hypervisor guest. Make sure the
4 QQORIQ_TLB1_ENTRY_COUNT is set according to the hypervisor configuration.
5
6 Update #3085.
```

**Author:** Trac Migrate 2017-09-19T12:37:27.000Z

Original author: sebastian.huber

In [changeset:"f100a58c823d39fd202a584c2fdae8b7655a98ce/rtems" f100a58/rtems]:

```
1 bsp/qorIQ: Add hypervisor guest SMP support
2
3 Update #3085.
```

**Author:** Trac Migrate 2017-09-19T12:42:12.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"4c1f442e2550ca1088ed0115fb098e53b25dbb5d/rtems" 4c1f442/rtems]:

```
1 bsp/qorIQ: Update README
2
3 Close #3085.
```

**Author:** Trac Migrate 2017-09-19T12:42:33.000Z

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"4.12.0"
- **Version** set to ~"4.12"

**Author:** Trac Migrate 2017-09-20T07:35:46.000Z

Original author: sebastian.huber

In [changeset:"d7ed684d7001bec95e881bc5622e156548dd8070/rtems" d7ed684/rtems]:

```
1 bsp/powerpc: Fix PPC_EXC_CONFIG_USE_FIXED_HANDLER
2
3 Fix link-time error on BSPs not using PPC_EXC_CONFIG_USE_FIXED_HANDLER.
4
5 Update #3085.
```

**Author:** Trac Migrate 2017-09-21T11:33:28.000Z

Original author: sebastian.huber

In [changeset:"b800f88a6370c1f090629c4d942443a9d4bede9c/rtems" b800f88/rtems]:

```
1 bsp/t32mppc: PPC_EXC_CONFIG_USE_FIXED_HANDLER
2
3 Fix link-time error.
4
5 Update #3085.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

**Author:** Trac Migrate 2017-11-20T07:51:01.000Z

Original author: sebastian.huber

In [changeset:"5018894ee176d1b05daf156a8b858b3db0d457f4/rtems" 5018894e/rtems]:

```
1 bsp/powerpc: Fix PPC_EXC_CONFIG_USE_FIXED_HANDLER
2
3 For the SPE support we must store the upper half of r3 as well.
4
5 Update #3085.
```

**Author:** Trac Migrate 2018-01-22T09:38:44.000Z

Original author: sebastian.huber

In [changeset:"5ce2dfaf4e4abbbfdc09f1ac7180edf19e5c5d11/rtems" 5ce2dfa/rtems]:

```
1 powerpc: Add FSL_EIS_EPR
2
3 Update #3085.
```

**Author:** Trac Migrate 2018-01-22T09:38:55.000Z

Original author: sebastian.huber

In [changeset:"9ec5ff4e577c2c06b8a839f090761f55fa70fab8/rtems" 9ec5ff4e/rtems]:

```
1 bsp/qorik: Fix hypervisor guest MMU config
2
3 Account for DPAA resources defined in the device tree.
4
5 Prevent merging of areas with incompatible MAS2.
6
7 Update #3085.
```

**Author:** Trac Migrate 2018-01-22T09:39:07.000Z

Original author: sebastian.huber

In [changeset:"81eced537616127cc9ce38a876fdadefc278493d/rtems" 81eced53/rtems]:

```
1 bsp/qorik: Fix bsp_fdt_map_intr()
2
3 Update #3085.
```

**Author:** Trac Migrate 2018-01-22T09:39:18.000Z

Original author: sebastian.huber

In [changeset:"2f54488f7497e94e92558457251e02d19f22aaf1/rtems" 2f54488f/rtems]:

```
1 bsp/qorik: Fix hypervisor guest IRQ support
2
3 Update #3085.
```

**Author:** Trac Migrate 2018-01-22T09:39:30.000Z

Original author: sebastian.huber

In [changeset:"44ba969c158fa96b73bdfa89120896a7d3595248/rtems" 44ba969/rtems]:

```
1 bsp/qorik: Fix hypervisor guest polled console
2
3 Update #3085.
```

**Author:** Trac Migrate 2018-01-22T09:39:42.000Z

Original author: sebastian.huber

In [changeset:"0df59b7cbba93829c80b4e3d5ae4a8f0878d6721/rtems" 0df59b7c/rtems]:

```
1 bsp/qorik: Optional multiprocessing support
2
3 Update #3085.
```

**Author:** Trac Migrate 2018-01-22T09:39:53.000Z

Original author: sebastian.huber

In [changeset:"2fd684e233985eac6e7a7da02026b9e95a178ffd/rtems" 2fd684e/rtems]:

```
1 bsp/qorik: Fix hypervisor guest irq vector max
2
3 Update #3085.
```

**Author:** Trac Migrate 2018-01-22T09:40:05.000Z

Original author: sebastian.huber

In [changeset:"b391fbc61c6f528a1b2a675f1376ff693601cdeb/rtems" b391fbc6/rtems]:

```
1 bsp/qorik: Fix hypervisor guest interrupt init
2
3 Update #3085.
```

**Author:** Trac Migrate 2018-01-23T06:30:46.000Z

Original author: sebastian.huber

In [changeset:"469fdeb25198ae6f03225e51c347567365b77bc/rtems" 469fdeb/rtems]:

```

1 bsp/qorIQ: Fix define for optional intercom
2
3 Update #3085.

```

**Author:** Trac Migrate 2018-03-20T06:42:19.000Z

Original author: sebastian.huber

In [changeset:"5d44981c2d8891478423af82316576d00f6352ea/rtems" 5d44981c/rtems]:

```

1 bsp/qorIQ: Fix bsp_restart()
2
3 Update #3085.

```

#### 4.2.1.563 3344 - mcf5272/mcf5272.h Timer3 Duplicate Definition

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3344                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                                 |
| <b>Created</b>     | 2018-03-15T14:44:25.000Z                                                                                                      |
| <b>Updated</b>     | 2018-03-16T13:51:04.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:m68k, priority::normal, resolution::fixed, tickettype::defect, version::5                                                |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3344">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3344</a> |
| <b>Merges</b>      | 0                                                                                                                             |

This .h file uses the same macro names for two blocks of INT macros. My assumption given that the second looks to be a different INT, is that it should not be INT3 again but INT3.

— a/bsps/m68k/include/mcf5272/mcf5272.h + + + b/bsps/m68k/include/mcf5272/mcf5272.h  
@@ -88,9 +88,9 @@

```
define MCF5272_ICR1_INT3_PI (bit(23))
```

```
define MCF5272_ICR1_INT3_IPL(x) ((x) << 20)
```

```
define MCF5272_ICR1_INT3_MASK ((7) << 20)
```

```

-#define MCF5272_ICR1_INT3_PI (bit(19))  -#define MCF5272_ICR1_INT3_IPL(x)
((x) << 16)  -#define MCF5272_ICR1_INT3_MASK ((7) << 16)  +#define
MCF5272_ICR1_INT4_PI (bit(19))  +#define MCF5272_ICR1_INT4_IPL(x) ((x) << 16)
+#define MCF5272_ICR1_INT4_MASK ((7) << 16)

```

**Author:** Joel Sherrill 2018-03-15T14:44:32.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

**Author:** Joel Sherrill 2018-03-16T13:51:04.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

<https://git.rtems.org/rtems/commit/?id=0c70535d54d27f95c25ad221f2ed8ba23c52ac4b>

4.2.1.564 3345 - mvme3100 spaces needed around quote in macro definitions in bsp.h

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3345                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                       |
| <b>Created</b>     | 2018-03-15T14:48:10.000Z                                                                                            |
| <b>Updated</b>     | 2018-03-16T13:50:16.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:powerpc, priority::normal, resolution::fixed, tickettype::defect, version::5                                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3345">https://gitlab.rtems.org/rtems/rtems/-/issues/3345</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Various BSP\_I2c\_XXX\_DEV\_NAME macros have a stray “ at the end of the first parameter.

**Author:** Joel Sherrill 2018-03-15T22:17:14.000Z

- **Summary** changed from *mvme3100 extra quote in macro definitions in bsp.h* to *mvme3100 spaces needed around quote in macro definitions in bsp.h*

**Author:** Joel Sherrill 2018-03-16T13:50:16.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

<https://git.rtems.org/rtems/commit/?id=dce920aea8f2fa286e014ad95f74a4ddb7854469>

## 4.2.1.565 3346 - bf533.h

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3346                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                       |
| <b>Created</b>     | 2018-03-15T14:53:55.000Z                                                                                            |
| <b>Updated</b>     | 2018-03-16T13:49:57.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:bfm, priority::normal, resolution::fixed, tickettype::defect, version::5                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3346">https://gitlab.rtems.org/rtems/rtems/-/issues/3346</a> |
| <b>Merges</b>      | 0                                                                                                                   |

TIMER\_STATUS, TIMER< DISABLE, and TIMER\_ENABLE are defined in bf52x.h and in bf533.h. Disable second definition in full bf533 register set list and add a sanity check to ensure it stays the same.

In file included from /home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/bfm/TLL6527M/include/bsp.h: from ../../../../rtems/c/src/libchip/display/disp\_hcms29xx.c:26: /home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/bfm/include/bf52x.h:43:0: warning: "TIMER\_STATUS" redefined

```
define TIMER_STATUS 0xffc00648
```

|                                                       |
|-------------------------------------------------------|
| <b>Author:</b> Joel Sherrill 2018-03-16T13:49:57.000Z |
|-------------------------------------------------------|

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

<https://git.rtems.org/rtems/commit/?id=74fe9ceda52c5749f341f57cb9f064276ca3532b>

## 4.2.1.566 3348 - beatnick:spaces needed around quote in macro definitions in bsp.h

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3348                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                       |
| <b>Created</b>     | 2018-03-15T22:18:58.000Z                                                                                            |
| <b>Updated</b>     | 2018-03-16T13:49:20.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:powerpc, priority::normal, resolution::fixed, tickettype::defect, version::5                                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3348">https://gitlab.rtems.org/rtems/rtems/-/issues/3348</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Macros need spaces around “,”



**Author:** Joel Sherrill 2018-03-16T13:49:20.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

<https://git.rtems.org/rtems/commit/?id=8307723dd3f4f282d1847b17ae7ac9db35af8784>

#### 4.2.1.567 3349 - pc386 edid.h invalid macro names

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3349                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                       |
| <b>Created</b>     | 2018-03-15T22:20:20.000Z                                                                                            |
| <b>Updated</b>     | 2018-03-16T13:38:44.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:i386, priority::normal, resolution::fixed, tickettype::defect, version::5                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3349">https://gitlab.rtems.org/rtems/rtems/-/issues/3349</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Minus sign not underbar in macro name.

```
-#define DVS_HDMI-a 0x2 -#define DVS_HDMI-b 0x3 +#define DVS_HDMI_a 0x2 +#define
DVS_HDMI_b 0x3
```

**Author:** Trac Migrate 2018-03-16T13:38:44.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"be3d7d75c6929b7be6448bcc4e849ae7be671339/rtems" be3d7d7/rtems]:

```
1 pc386/include/edid.h: Fix macro name to use _ not -
2
3 Closes #3349.
```

## 4.2.1.568 3340 - gen83xx warning for macros redefined

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3340                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2018-03-14T21:06:00.000Z                                                                                                      |
| <b>Updated</b>     | 2018-03-16T13:24:45.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:powerpc, priority::normal, resolution::fixed, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3340">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3340</a> |
| <b>Merges</b>      | 0                                                                                                                             |

log/powerpc-hsc\_cm01.log:/home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/powerpc/gen83xx/include  
warning: "FPGA\_START" redefined log/powerpc-hsc\_cm01.log:/home/joel/rtems-work/rtems-testing/rtems/rtems/bsps/powerpc/gen83xx/include/bsp/hwreg\_vals.h:246:0: warning:  
"FPGA\_SIZE" redefined

Looking at the code, it is pretty clear that the macros are redefined. Unfortunately one of the three has a different value the second time:

```
define FPGA_START 0xF8000000

define FPGA_SIZE 0x8000

define FPGA_END (FPGA_START+FPGA_SIZE-1)

/* * working values for various registers, used in start/start.S */
/* fpga config 16 MB size */

define FPGA_CONFIG_START 0xF8000000

define FPGA_CONFIG_SIZE 0x01000000

/* fpga register 8 MB size */

define FPGA_REGISTER_START 0xF9000000

define FPGA_REGISTER_SIZE 0x00800000

/* fpga fifo 8 MB size */

define FPGA_FIFO_START 0xF9800000

define FPGA_FIFO_SIZE 0x00800000

define FPGA_START (FPGA_CONFIG_START)

// fpga window size 32 MByte
```

```
define FPGA_SIZE (0x02000000)
```

```
define FPGA_END (FPGA_START+FPGA_SIZE-1)
```

**Author:** Joel Sherrill 2018-03-14T21:06:25.000Z

- **Owner** set to sebastian.huber

**Author:** Trac Migrate 2018-03-16T13:24:45.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"9b613427789b704ee579821d6d58db3e3143ef25/rtems" 9b61342/rtems]:

```
1 bsp/gen83xx: Fix define redefinitions
2
3 Close #3340.
```

4.2.1.569 3350 - sptimecounter02 warning due to defining `_KERNEL` and disabling part of `<sys/time.h>`

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3350                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2018-03-15T22:32:28.000Z                                                                                                      |
| <b>Updated</b>     | 2018-03-16T07:22:01.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3350">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3350</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The bottom of `<sys/time.h>` is protected by `ifndef _KERNEL` where `gettimeofday()` is prototyped. `sptimecounter02` is the only test which trips this.

In file included from `/home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/confdefs.h:323`:  
 from `.././.././.././../rtems/c/src/./../testsuites/sptests/sptimecounter02/init.c:268`:  
`/home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/imfs.h`:

In function `'IMFS_update_atime'`: `/home/joel/rtems-work/rtems-testing/rtems/rtems/cpukit/include/rtems/imfs.h:345:3`: warning: implicit declaration of function `'gettimeofday'` [-Wimplicit-function-declaration] `gettimeofday( &now, 0 );`  
 ^ ~~~~~

**Author:** Joel Sherrill 2018-03-15T22:32:44.000Z

- **Owner** set to sebastian.huber

**Author:** Trac Migrate 2018-03-16T07:22:01.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"478dc8968fe54f8762e77ca17db98d6b290dd2b8/rtems" 478dc89/rtems]:

```
1 imfs: Use most efficient way to get the time
2
3 As a side-effect, this fixes some warnings.
4
5 Close #3350.
```

#### 4.2.1.570 3305 - Add paravirtualization support to ARM

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3305                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                                 |
| <b>Created</b>     | 2018-02-16T17:15:35.000Z                                                                                                      |
| <b>Updated</b>     | 2018-03-13T15:15:20.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:arm, priority::normal, resolution::fixed, tickettype::enhancement, version::5                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3305">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3305</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The Arm port does not currently have paravirtualization support.

**Author:** Joel Sherrill 2018-02-16T17:15:56.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

**Author:** Joel Sherrill 2018-03-13T15:15:20.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

<https://git.rtems.org/rtems/commit/?id=c0443b4ce943fa891839c7b7be21d8ebd4370de1>

## 4.2.1.571 3306 - Add paravirtualization support to PowerPC

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3306                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2018-02-16T17:17:37.000Z                                                                                            |
| <b>Updated</b>     | 2018-03-13T15:01:44.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:powerpc, priority::normal, resolution::fixed, ticket-type::enhancement, version::5                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3306">https://gitlab.rtems.org/rtems/rtems/-/issues/3306</a> |
| <b>Merges</b>      | 0                                                                                                                   |

The PowerPC port does not currently have paravirtualization support.

**Author:** Trac Migrate 2018-03-13T15:01:44.000Z

- **Owner** set to Joel Sherrill <[joel@rtems.org](mailto:joel@rtems.org)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"0a7a30d19d7d2e3067fc7d7be0d54730b8275f2f/rtems" 0a7a30d/rtems]:

```

1 Add PowerPC paravirtualization support
2
3 Cannot read or write MSR when executing in user mode. This
4 is used when RTEMS_PARAVIRT is defined.
5
6 Provide alternate methods to disable/enable interrupts
7
8 Closes #3306.
```

## 4.2.1.572 3325 - Simplify clustered scheduler configuration

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3325                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2018-03-08T06:02:28.000Z                                                                                            |
| <b>Updated</b>     | 2018-03-12T06:14:56.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::config, ticket-type::enhancement, version::5                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3325">https://gitlab.rtems.org/rtems/rtems/-/issues/3325</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Improve the scheduler configuration documentation according to user review.

Do not use names derived from scheduler implementation details. Instead use names derived from the scheduler configuration or documentation.

Provide defines for backward compatibility.

**Author:** Trac Migrate 2018-03-08T06:47:33.000Z

Original author: sebastian.huber

In [changeset:"bf78123adaaef8e56eb76e5d6bf9c0ba1b03b57e/rtems-docs"bf78123/rtems-docs]:

```
1 c-user: Rework scheduler alogrithm config defs
2
3 Update #3325.
```

**Author:** Trac Migrate 2018-03-08T07:05:33.000Z

Original author: sebastian.huber

In [changeset:"0231ebc22fe95cce877c29a61260a69192a78b86/rtems"0231ebc/rtems]:

```
1 config: Remove RTEMS prefix from internal defines
2
3 Update #3325.
```

**Author:** Trac Migrate 2018-03-12T06:02:46.000Z

Original author: sebastian.huber

In [changeset:"2ef85b1c76daef1ffc15dde9ef75012022fdaef3/rtems"2ef85b1/rtems]:

```
1 config: Simplify clustered scheduler configuration
2
3 Do not use names derived from scheduler implementation details. Instead
4 use names derived from the scheduler configuration or documentation.
5
6 Provide defines for backward compatibility.
7
8 Update #3325.
```

**Author:** Trac Migrate 2018-03-12T06:02:56.000Z

Original author: sebastian.huber

In [changeset:"6fadb7af092edc2caab1c34d004341ea784989f7/rtems" 6fadb7a/rtems]:

```
1 config: Use new scheduler configuration defines
2
3 Update #3325.
```

**Author:** Trac Migrate 2018-03-12T06:14:56.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"154fb0f90ac6cc47a586327124b6ea4820b551a9/rtems-docs" 154fb0f9/rtems-docs]:

```
1 c-user: Simplify clustered scheduler configuration
2
3 Close #3325.
```

#### 4.2.1.573 3328 - bootstrap uses non-POSIX compliant echo -e

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3328                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2018-03-09T16:59:21.000Z                                                                                                      |
| <b>Updated</b>     | 2018-03-09T19:26:18.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::build, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3328">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3328</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: amaan

On certain shells, the “-e” option is not supported, and causes echo to output the flag along with the quoted text.

```
1 -> % sh
2 $ echo -e "foo bar"
3 -e foo bar
4 $
```

This varies by shell, and is not even consistent between sh or bash.

It was introduced [while removing the make preinstall stage here](#), and may still work on most shells, though it didn't for me on sh on Ubuntu 16.04 LTS (4.4.0-78-generic x86\_64 GNU/Linux)

- as far as I can tell, this bug hasn't made it to any releases yet, so just fixing it on master should be enough.

A patch is attached.

Reference to the POSIX standard which confirms that -n is the only argument supported.

<http://pubs.opengroup.org/onlinepubs/9699919799/utilities/echo.html>

Link to POSIX for printf(1):

<http://pubs.opengroup.org/onlinepubs/9699919799/utilities/printf.html>

- [0001-bootstrap-Use-printf-instead-of-echo-e-for-POSIX-she.patch](#)

**Author:** Trac Migrate 2018-03-09T17:00:08.000Z

Original author: amaan

- **Attachment** [0001-bootstrap-Use-printf-instead-of-echo-e-for-POSIX-she.patch](#) added

Patch to use printf instead of echo -e

**Author:** Joel Sherrill 2018-03-09T19:10:16.000Z

Original author: amaan

- **Description** changed

```

1 On certain shells, the "-e" option is not supported, and causes echo to
2 ↪ output the flag along with the quoted text.
3 {{{
4
5 -> % sh
6 $ echo -e "foo bar"
7 -e foo bar
8 $
9 }}}
10
11 This varies by shell, and is not even consistent between sh or bash.
12
13 It was introduced [while removing the make preinstall stage
14 ↪ here](https://devel.rtems.org/ticket/3254#comment:78), and may still
15 ↪ work on most shells, though it didn't for me on sh on Ubuntu 16.04
16 ↪ LTS (4.4.0-78-generic x86_64 GNU/Linux) - as far as I can tell, this
17 ↪ bug hasn't made it to any releases yet, so just fixing it on master
18 ↪ should be enough.
19
20 A patch is attached.
21 +
22 + Reference to the POSIX standard which confirms that -n is the only

```

(continues on next page)



(continued from previous page)

```

↪ argument supported.
18 +
19 + http://pubs.opengroup.org/onlinepubs/9699919799/utilities/echo.html
20 +
21 + Link to POSIX for printf(1):
22 +
23 + http://pubs.opengroup.org/onlinepubs/9699919799/utilities/printf.html

```

**Author:** Joel Sherrill 2018-03-09T19:26:18.000Z

Original author: amaan

- **Milestone** set to %”5.1”
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*
- **Version** set to ~”5”

This didn’t close automatically on the commit.

<http://git.rtems.org/rtems/commit/?id=4dfeba3a0e53d4b697b07f9c10783c411e43ccdf>

4.2.1.574 3318 - Improve INTERNAL\_ERROR\_THREAD\_EXITTED to show the id and thread name

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3318                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2018-03-02T10:12:31.000Z                                                                                                      |
| <b>Updated</b>     | 2018-03-08T05:56:53.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | bsp, priority::low, resolution::fixed, tickettype::enhancement, version::5                                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3318">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3318</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: mfletcher

It might be more helpful i the case of a thread exit to output some information about that thread to make tracking it down simpler.

This example works ok.

```
static void thread_exitted_print_info(rtems_tcb *tcb) { printf(“Thread exited: %s (id %d)n”,
tcb->Object.name, tcb->Object.id) }
```

```
/* In your configuration: */
```

```
define CONFIGURE_INITIAL_EXTENSIONS \
{ .thread_exitted = thread_exitted_print_info }
```

**Author:** Trac Migrate 2018-03-07T06:50:44.000Z

Original author: mfletcher

- **Milestone** set to %”5.1”
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*
- **Version** set to ~”5”

**Author:** Trac Migrate 2018-03-08T05:56:53.000Z

Original author: mfletcher

- **Resolution** set to ~”fixed”
- **Status** changed from *accepted* to *closed*

In [changeset:”d39cc068738b5028af771e6ea280ce370a69d3ca/rtems”  
d39cc068/rtems]:

```
1 bsp: More verbose bsp_fatal_extension()
2
3 Close #3318.
```

4.2.1.575 3315 - Move expat’s home site to github from SF.

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3315                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2018-03-02T00:21:26.000Z                                                                                            |
| <b>Updated</b>     | 2018-03-04T21:31:03.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::highest, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3315">https://gitlab.rtems.org/rtems/rtems/-/issues/3315</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Move expat’s home site from SF to github:

<https://libexpat.github.io/>

**Author:** Trac Migrate 2018-03-04T21:31:03.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"4b3e0f8e3d6998b84a2503dd2e11578989b1672b/rtems-source-builder" 4b3e0f8/rtems-source-builder]:

```
1 The libexpat project has moved to github. Fetch expat from github.
2
3 Close #3315
```

4.2.1.576 3312 - RSB macro calls such as define fail on unicode keys.

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3312                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2018-02-23T00:34:09.000Z                                                                                            |
| <b>Updated</b>     | 2018-02-25T21:33:37.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3312">https://gitlab.rtems.org/rtems/rtems/-/issues/3312</a> |
| <b>Merges</b>      | 0                                                                                                                   |

The define call in macros.py checks for a str while the \_\_setitem\_\_ call can convert a unicode string to str. Remove the check.

Remove the other places in macros.py a key str check is made and see if they can be improved.

The following has been reported to me:

```
1 cd rtems-source-builder-4.11.3/rtems
2 ../source-builder/sb-set-builder --prefix=/home/user/rtems/4.11 --log=arm.txt --
  ↳without-rtems 4.11/rtems-arm
3 Traceback (most recent call last):
4 File "../source-builder/sb-set-builder", line 29, in <module>
5   setbuilder.run()
6 File "../source-builder/sb/setbuilder.py", line 526, in run
7   opts = options.load(sys.argv, optargs)
8 File "../source-builder/sb/options.py", line 668, in load
9   version.load_release_settings(o.defaults)
10 File "../source-builder/sb/version.py", line 123, in load_release_settings
11   sources.hash((hs[0], hash[0], hs[1]), macros, setting_error)
12 File "../source-builder/sb/sources.py", line 105, in hash
13   macros.define(_file, '%s %s' % (args[0], args[2]))
14 File "../source-builder/sb/macros.py", line 439, in define
15   raise TypeError('bad key type: %s' % (type(key)))
16 TypeError: bad key type: <type 'unicode'>
```

**Author:** Trac Migrate 2018-02-25T21:33:37.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d255e812abd5d46d7cbbd4ef924f9d1267100c0b/rtems-source-builder" d255e81/rtems-source-builder]:

```
1 sb: Convert any unicode keys to strings
2
3 Closes #3312
```

#### 4.2.1.577 2840 - Use self-contained mutexes for Termios framework

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2840                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-12-14T12:53:36.000Z                                                                                            |
| <b>Updated</b>     | 2018-02-22T15:42:52.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | device::serial, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::4.11          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2840">https://gitlab.rtems.org/rtems/rtems/-/issues/2840</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Use C11 mutexes instead of Classic semaphores as a performance optimization and to simplify the application configuration.

A performance of Classic semaphores vs. C11 mutexes was measured on the arm/atsam BSP. A NXP SC16IS752 was connected via SPI. The RTEMS application used one task to read from the device and write it immediately back (look back via task). A development system constantly transmitted data at 115200 bits per second.

CPU usage by function with Classic semaphores:

| name                     | ratio  | 1% | 2% | 5% | 10% |
|--------------------------|--------|----|----|----|-----|
| ↳ __20%_____50%__100     |        |    |    |    |     |
| CPU_Thread_Idle_body     | 22.454 |    |    |    |     |
| ↳ % =====                |        |    |    |    |     |
| atsam_spi_setup_transfer | 6.767% |    |    |    |     |
| ↳                        |        |    |    |    |     |
| Objects_Get              | 5.859% |    |    |    |     |
| ↳                        |        |    |    |    |     |
| atsam_spi_interrupt      | 4.483% |    |    |    |     |
| ↳                        |        |    |    |    |     |
| Event_Seize              | 3.867% |    |    |    |     |
| ↳                        |        |    |    |    |     |

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|    |   |                                      |              |   |
|----|---|--------------------------------------|--------------|---|
| 7  | ↩ | rtems_termios_enqueue_raw_characters | 3.804% ===== | ↪ |
| 8  | ↩ | Timecounter_Binuptime                | 3.715% ===== | ↪ |
| 9  | ↩ | Scheduler_priority_Block             | 3.104% ===== | ↪ |
| 10 | ↩ | rtems_semaphore_release              | 3.018% ===== | ↪ |
| 11 | ↩ | Scheduler_priority_Unblock           | 2.901% ===== | ↪ |
| 12 | ↩ | rtems_termios_read_tty               | 2.777% ===== | ↪ |
| 13 | ↩ | ARMV7M_NVIC_Interrupt_dispatch       | 2.750% ===== | ↪ |
| 14 | ↩ | rtems_semaphore_obtain               | 2.627% ===== | ↪ |
| 15 | ↩ | Thread_Do_dispatch                   | 2.351% ===== | ↪ |
| 16 | ↩ | ARMV7M_Interrupt_service_leave       | 2.086% ===== | ↪ |
| 17 | ↩ | iproc                                | 1.919% ===== | ↪ |
| 18 | ↩ | CPU_Context_switch                   |              | ↪ |

CPU usage by function with C11 mutexes:

|    |                                      |              |                            |   |
|----|--------------------------------------|--------------|----------------------------|---|
| 1  | name_____                            | ratio__      | 1%_____2%_____5%_____10%__ |   |
|    | ↩__20%_____50%__100                  |              |                            |   |
| 2  | CPU_Thread_Idle_body                 | 33.395       |                            |   |
|    | ↩% =====                             |              |                            |   |
| 3  | atsam_spi_setup_transfer             | 6.061% ===== |                            | ↪ |
| 4  | atsam_spi_interrupt                  | 4.690% ===== |                            | ↪ |
| 5  | Mutex_recursive_Release              | 3.011% ===== |                            | ↪ |
| 6  | Event_Seize                          | 2.955% ===== |                            | ↪ |
| 7  | ARMV7M_NVIC_Interrupt_dispatch       | 2.885% ===== |                            | ↪ |
| 8  | rtems_termios_enqueue_raw_characters | 2.771% ===== |                            | ↪ |
| 9  | rtems_termios_read_tty               | 2.722% ===== |                            | ↪ |
| 10 | Timecounter_Binuptime                | 2.653% ===== |                            | ↪ |
| 11 | Thread_Do_dispatch                   | 2.240% ===== |                            | ↪ |

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|    |                                |              |   |
|----|--------------------------------|--------------|---|
| 12 | Scheduler_priority_Block       | 2.112% ===== | └ |
|    | ↪                              |              |   |
| 13 | ARMV7M_Interrupt_service_leave | 2.100% ===== | └ |
|    | ↪                              |              |   |
| 14 | Scheduler_priority_Unblock     | 1.919% ===== | └ |
|    | ↪                              |              |   |
| 15 | Mutex_recursive_Acquire        | 1.876% ===== | └ |
|    | ↪                              |              |   |
| 16 | iproc                          | 1.773% ===== | └ |
|    | ↪                              |              |   |
| 17 | CPU_Context_switch             |              |   |

The change resulted in 10% more total idle time on the system.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-05-11T07:42:40.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.0"

**Author:** Chris Johns 2017-08-14T00:12:55.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.0" to %"Indefinite"
- **Version** ~"4.11" deleted

**Author:** Trac Migrate 2018-02-02T14:22:00.000Z

Original author: sebastian.huber

In [changeset:"2c12262f9a8fe7975556729f0574fab8d5a792f5/rtems" 2c12262/rtems]:

```
1 termios: Use self-contained objects
2
3 Update #2840.
```

**Author:** Trac Migrate 2018-02-05T10:50:41.000Z

Original author: sebastian.huber

- **Milestone** changed from %”Indefinite” to %”5.1”
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*
- **Summary** changed from *Use C11 mutexes for Termios framework* to *Use self-contained mutexes for Termios framework*

Fixed by [#2843](#).

**Author:** Trac Migrate 2018-02-22T15:42:52.000Z

Original author: sebastian.huber

In [changeset:”5618997dfd0bec9393d510aa5a058b5c65b11e6f/rtems”  
5618997d/rtems]:

```
1 termios: Fix use of uninitialized variable
2
3 Update #2840.
```

#### 4.2.1.578 1971 - Memory leak in tmpfile()

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 1971                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2011-11-24T13:50:41.000Z                                                                                            |
| <b>Updated</b>     | 2018-02-12T00:07:17.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | filesystem, priority::normal, resolution::fixed, tickettype::defect, version::4.10, version::4.11                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/1971">https://gitlab.rtems.org/rtems/rtems/-/issues/1971</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: nopscmn

Hello,

I use tmpfile() in my RTEMS application, and found that it has memory leak. I wrote small test application (see attachment), that output memory usage:

Memory usage before: Number of used blocks: 12 Largest used block: 1288 Total bytes used: 3628

Memory used after: Number of used blocks: 1013 Largest used block: 1288 Total bytes used: 112064

By 1000 iteration, each call tmpfile() cause memory leak about 108 bytes.

- [init-1.c](#)

---

**Author:** Trac Migrate 2011-11-24T13:50:41.000Z

---

Original author: nopscmn

- **Attachment** [init-1.c](#) added

Test application

---

**Author:** Trac Migrate 2014-04-16T05:21:26.000Z

---

Original author: nopscmn

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*, [gedare@rtems.org](mailto:gedare@rtems.org)
- **Milestone** changed from %"4.11" to %"4.12"
- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*, [sebastian.huber@embedded-brains.de](mailto:sebastian.huber@embedded-brains.de)
- **Cc** added @@joel

I think real memory leak was fixed. How we can see in first memory trace after 1000 tmpfile() was allocated 1000+1 block. In Gedare memory trace after test was allocated 1 block. This block probably allocated at first tmpfile() for some initialization.

I can try to find out this 1 block allocation and write test but it can take a long time.

Not for license wars, this attached application is too simple to licensing and can be written by any RTEMS developer. Nonetheless, formalities for I give all rights on attached test application to Joel Sherrill.

---

**Author:** Chris Johns 2014-11-20T03:27:43.000Z

---

Original author: nopscmn

- **Description** changed

```

1 Hello,
2
3 I use tmpfile() in my RTEMS application, and found that it has memory_
↪leak.
4 I wrote small test application (see attachment), that output memory_
↪usage:
5
6 Memory usage before:
7 Number of used blocks: 12
8 Largest used block: 1288
9 Total bytes used: 3628
10

```

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```

11 Memory used after:
12 Number of used blocks:  1013
13 Largest used block:    1288
14 Total bytes used:      112064
15
16 By 1000 iteration, each call tmpfile() cause memory leak about 108
  bytes.

```

- **Milestone** changed from %"4.12" to %"4.11"

**Author:** Gedare Bloom 2014-12-19T04:38:14.000Z

Original author: nopscmn

- **Milestone** changed from %"4.11" to %"4.11.1"

Bump milestone to 4.11.1 in case no patch exists and PR seems delayable.

**Author:** Trac Migrate 2017-01-26T07:16:00.000Z

Original author: nopscmn

- **Milestone** changed from %"4.11.1" to %"4.11.2"

**Author:** Chris Johns 2017-03-23T01:03:28.000Z

Original author: nopscmn

- **Milestone** changed from %"4.11.2" to %"4.11.3"

The 4.11.2 milestone is closing.

**Author:** Chris Johns 2017-03-23T01:05:42.000Z

Original author: nopscmn

- **Version** changed from ~"4.10" to ~"4.11"

Move to the 4.11 branch.

**Author:** Chris Johns 2018-02-05T05:56:05.000Z

Original author: nopscmn

- **Description** changed

```

1 Hello,
2
3 I use tmpfile() in my RTEMS application, and found that it has memory

```

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```

↪leak.
4 I wrote small test application (see attachment), that output memory_
↪usage:
5
6 Memory usage before:
7 Number of used blocks: 12
8 Largest used block: 1288
9 Total bytes used: 3628
10
11 Memory used after:
12 Number of used blocks: 1013
13 Largest used block: 1288
14 Total bytes used: 112064
15
16 By 1000 iteration, each call tmpfile() cause memory leak about 108_
↪bytes.

```

What should happen with this ticket?

**Author:** Trac Migrate 2018-02-05T08:32:00.000Z

Original author: nopscmn

- **Milestone** changed from %"4.11.3" to %"5.1"

**Author:** Trac Migrate 2018-02-05T08:32:32.000Z

Original author: nopscmn

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

In [changeset:"4ac5ffbb8314d307964f21a774e923a62a3c36e0/rtems" 4ac5ffbb/rtems]:

```

1 fsclose01: Add tmpfile() test case
2
3 Close #1971.

```

**Author:** Trac Migrate 2018-02-09T12:15:21.000Z

Original author: nopscmn

In [changeset:"48aa4b5d50ba6a7d1ad5ecf7f1b6d88546cdda9d/rtems" 48aa4b5d/rtems]:

```

1 fsclose01: Use floating-point task
2

```

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```

3 The tmpfile() uses sprintf().
4
5 Update #1971.

```

**Author:** Trac Migrate 2018-02-09T12:18:32.000Z

Original author: nopscmn

In [changeset:"a3eec5cf3513d76cce325b5cb9b7eeff07d14e69/rtems" a3eec5c/rtems]:

```

1 fsclose01: Fix task mode, use attribute
2
3 Update #1971.

```

**Author:** Chris Johns 2018-02-12T00:07:17.000Z

Original author: nopscmn

The version and milestone for this ticket do not match.

#### 4.2.1.579 3090 - Add BSP for i.MX 7

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3090                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-08-04T11:49:50.000Z                                                                                            |
| <b>Updated</b>     | 2018-02-08T09:01:00.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | bsp, priority::normal, resolution::fixed, tickettype::enhancement                                                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3090">https://gitlab.rtems.org/rtems/rtems/-/issues/3090</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

**Author:** Trac Migrate 2017-08-04T12:25:39.000Z

Original author: sebastian.huber

In [changeset:"ef04443b1944a59cf9108758ac5d6788ceac60c7/rtems" ef04443/rtems]:

```

1 bsps/arm: Add ARMv7-AR Generic Timer support
2
3 Update #3090.

```

**Author:** Trac Migrate 2017-08-04T12:25:51.000Z

Original author: sebastian.huber

In [changeset:"ffe7c0e74971fa7ad16f948f23b19688e18725c2/rtems" ffe7c0e/rtems]:

```
1 bsp/arm: Add ARMv7-AR Generic Timer clock driver
2
3 Update #3090.
```

**Author:** Trac Migrate 2017-08-04T12:26:04.000Z

Original author: sebastian.huber

In [changeset:"694c31f9900ad05ad349f4b7227150d9de6ab171/rtems" 694c31f9/rtems]:

```
1 bsp/imx: New BSP
2
3 Update #3090.
```

**Author:** Trac Migrate 2017-08-04T12:47:03.000Z

Original author: sebastian.huber

In [changeset:"ca9490ca36cedaea9f9428ce56b1b4027c159ae4/rtems" ca9490c/rtems]:

```
1 bsp/imx: Fix UART interrupt
2
3 Update #3090.
```

**Author:** Chris Johns 2017-08-05T23:55:35.000Z

Original author: sebastian.huber

Can the rtems-tool's bsp-builder configuration files please be updated to include this BSP:

<https://git.rtems.org/rtems-tools/tree/tester/rtems/rtems-bsps-arm.ini>

Thanks

**Author:** Trac Migrate 2017-09-22T12:25:09.000Z

Original author: sebastian.huber

In [changeset:"8e6a407a2a8fa2948a1372855062a7d1bdb2980d/rtems" 8e6a407a/rtems]:

```

1 bsp/arm: Copy FDT only on boot processor
2
3 Update #3090.

```

**Author:** Trac Migrate 2017-09-22T12:25:20.000Z

Original author: sebastian.huber

In [changeset:"3ad3849a899a34e83ed217e708de0425199a0c9e/rtems" 3ad3849a/rtems]:

```

1 bsp/imx: Add register headers
2
3 Update #3090.

```

**Author:** Trac Migrate 2017-09-22T12:25:32.000Z

Original author: sebastian.huber

In [changeset:"29919242dbc260fff2e82df9477003868aac7a71/rtems" 29919242/rtems]:

```

1 bsp/imx: Add SMP support
2
3 Update #3090.

```

**Author:** Trac Migrate 2017-09-22T12:40:45.000Z

Original author: sebastian.huber

In [changeset:"05f9858ffde4cb7e8593fd609bb4e7c5dbf3b8bc/rtems" 05f9858f/rtems]:

```

1 bsp: Generalize bsp_fdt_map_intr()
2
3 Pass all interrupt cells to bsp_fdt_map_intr() since some platforms use
4 an array to describe an interrupt.
5
6 Update #3090.

```

**Author:** Trac Migrate 2017-09-22T12:43:09.000Z

Original author: sebastian.huber

In [changeset:"b46916339b5ac2f126537acec2b449dccc365f4/rtems-libbsd" b469163/rtems-libbsd]:

```
1 Generalize bsp_fdt_map_intr()  
2  
3 Update #3090.
```

**Author:** Trac Migrate 2017-09-26T05:32:21.000Z

Original author: sebastian.huber

In [changeset:"4bf2ce3115a532a173cb34f20bedf186d897db8b/rtems"  
4bf2ce31/rtems]:

```
1 bsp/imx: Add register headers  
2  
3 Update #3090.
```

**Author:** Trac Migrate 2017-09-26T12:02:03.000Z

Original author: sebastian.huber

In [changeset:"362e96ab8bb15512eaf108145da3f50eaad109bf/rtems"  
362e96ab/rtems]:

```
1 bsp/imx: Provide a default console  
2  
3 Update #3090.
```

**Author:** Trac Migrate 2017-09-27T08:59:47.000Z

Original author: sebastian.huber

In [changeset:"561698315f50258832ad41453318b1dcbd00ed49/rtems"  
5616983/rtems]:

```
1 bsp/imx: Add nocache section  
2  
3 Update #3090.
```

**Author:** Trac Migrate 2017-09-27T12:56:17.000Z

Original author: sebastian.huber

In [changeset:"87e1929aea660278c95f53c4268760b077e96dc5/rtems-docs"  
87e1929/rtems-docs]:

```
1 Mention i.MX 7 SMP support  
2  
3 Update #3090.
```

---

**Author:** Trac Migrate 2017-10-02T11:41:52.000Z

---

Original author: sebastian.huber

In [changeset:"7e195e66c751523d7f2bcf0b45f7d6823d87ca97/rtems"  
7e195e66/rtems]:

```
1 bsp/imx: Add imx_get_irq_of_node()
2
3 Update #3090.
```

---

**Author:** Trac Migrate 2017-10-02T11:42:04.000Z

---

Original author: sebastian.huber

In [changeset:"ce28d601c947de8ff6af0ce632f1d1c685a1d3e2/rtems"  
ce28d601/rtems]:

```
1 bsp/imx: Add imx_get_reg_of_node()
2
3 Update #3090.
```

---

**Author:** Trac Migrate 2017-10-02T11:42:16.000Z

---

Original author: sebastian.huber

In [changeset:"9db9024b7d91f145c4feb8b0572cbafe8c972c3a/rtems"  
9db9024/rtems]:

```
1 bsp/imx: Fix I2C register header
2
3 Update #3090.
```

---

**Author:** Trac Migrate 2017-10-02T11:42:27.000Z

---

Original author: sebastian.huber

In [changeset:"f043b9bd3bf25626fb1a311dd7fa041eacc68adc/rtems"  
f043b9b/rtems]:

```
1 bsp/imx: Add I2C bus driver
2
3 Update #3090.
```

---

**Author:** Trac Migrate 2017-10-06T11:02:46.000Z

---

Original author: sebastian.huber

In [changeset:"b39cda6ca4a55070078df5ff11256c20fd8bc6de/rtems" b39cda6/rtems]:

```
1 bsp/imx: Fix I2C registration with path
2
3 Update #3090.
```

**Author:** Trac Migrate 2017-10-06T11:02:57.000Z

Original author: sebastian.huber

In [changeset:"e316be750c9d785afbd6eeaf58dacfb1cdf91dbd/rtems" e316be7/rtems]:

```
1 bsp/imx: Import iomux from FreeBSD
2
3 Update #3090.
```

**Author:** Trac Migrate 2017-10-06T11:03:09.000Z

Original author: sebastian.huber

In [changeset:"54380f4244964ec805f8aece883fb2cd2590ea0d/rtems" 54380f42/rtems]:

```
1 bsp/imx: Add imx_iomux_configure_pins()
2
3 Update #3090.
```

**Author:** Trac Migrate 2017-10-06T11:03:20.000Z

Original author: sebastian.huber

In [changeset:"170df3d9b1bf53705f2d7a345f87d68d8ba41994/rtems" 170df3d/rtems]:

```
1 bsp/imx: Add SPI bus driver
2
3 Update #3090.
```

**Author:** Trac Migrate 2017-10-25T12:31:19.000Z

Original author: sebastian.huber

In [changeset:"a8a9cf1847f2832e9e5ce54e862063d7907fc42d/rtems-libbsd" a8a9cf1/rtems-libbsd]:



```
1 ffec: Add checksum offload
2
3 Update #3090.
```

**Author:** Trac Migrate 2017-10-26T06:44:46.000Z

Original author: sebastian.huber

In [changeset:"936b597a5726a4b56024b0230644553eb2ca03b6/rtems-libbsd" 936b597/rtems-libbsd]:

```
1 ffec: Fix comment
2
3 Update #3090.
```

**Author:** Trac Migrate 2017-11-02T10:26:12.000Z

Original author: sebastian.huber

In [changeset:"c52a9682c19682f7d0cb4da69efff874f7d7f351/rtems" c52a968/rtems]:

```
1 bsp/imx: Implement bsp_reset()
2
3 Update #3090.
```

**Author:** Trac Migrate 2017-11-02T10:26:23.000Z

Original author: sebastian.huber

In [changeset:"4b055e23e9cfc33a0d67ca3358e1e07040a599ca/rtems" 4b055e23/rtems]:

```
1 bsp/imx: Drain console before reset
2
3 Update #3090.
```

**Author:** Trac Migrate 2017-11-02T12:44:27.000Z

Original author: sebastian.huber

In [changeset:"4438c4d826cd7f711b5af56e3c0170ea83b66ad8/rtems" 4438c4d8/rtems]:

```
1 bsp/imx: More robust and faster bsp_reset()
2
3 Update #3090.
```

**Author:** Trac Migrate 2017-11-08T07:44:56.000Z

Original author: sebastian.huber

In [changeset:"336fe3b9fd3efe9672c92e5ab9d4cdfc0c2bce6b/rtems"336fe3b/rtems]:

```
1 bsp/imx: Better utilize UART transmit FIFO
2
3 Update #3090.
```

**Author:** Trac Migrate 2017-11-08T07:45:08.000Z

Original author: sebastian.huber

In [changeset:"fdf0e55cf929aba409e19c4692a73b6522f2a51e/rtems"fdf0e55/rtems]:

```
1 bsp/imx: Add UART baud change
2
3 Update #3090.
```

**Author:** Trac Migrate 2017-11-09T08:54:54.000Z

Original author: sebastian.huber

In [changeset:"6f5cfada964ce58746a10c931ec6fa9bfc5f4a1a/rtems-tools"6f5cfad/rtems-tools]:

```
1 Add tester imx7.ini
2
3 Update #3090.
```

**Author:** Trac Migrate 2018-02-08T09:01:00.000Z

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"5.1"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

## 4.2.1.580 2843 - Use self-contained objects instead of Classic API for drivers and support libraries

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2843                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-12-16T16:25:04.000Z                                                                                                      |
| <b>Updated</b>     | 2018-02-08T08:59:06.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | bsp, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                                  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2843">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2843</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The Classic API has some weaknesses:

- Dynamic memory (the workspace) is used to allocate object pools. This requires a complex configuration with heavy use of the C pre-processor.
- Objects are created via function calls which return an object identifier. The object operations use this identifier and map it internally to an object representation.
- The objects reside in a table, e.g. they are suspect to false sharing of cache lines.
- The object operations use a rich set of options and attributes. For each object operation these parameters must be evaluated and validated at run-time to figure out what to do exactly for this operation.

The overhead for Classic API mutexes used for example in Termios and the SPI framework is significant, see discussion:

<https://lists.rtems.org/pipermail/devel/2016-December/016543.html>

There are some API options available:

1. Use C11 mutexes and condition variables.
2. Turn the POSIX synchronization objects into self-contained objects and use them.
3. Use FreeBSD synchronization objects like [MUTEX\(9\)](https://www.freebsd.org/cgi/man.cgi?query=condvar&apropos=0&sektion=9&manpath=FreeBSD+10.3-RELEASE+and+Ports&arch=default&format=html) or [\[CONDVAR\(9\)\]](https://www.freebsd.org/cgi/man.cgi?query=condvar&apropos=0&sektion=9&manpath=FreeBSD+10.3-RELEASE+and+Ports&arch=default&format=html) (<https://www.freebsd.org/cgi/man.cgi?query=condvar&apropos=0&sektion=9&manpath=FreeBSD+10.3-RELEASE+and+Ports&arch=default&format=html>).
4. Add RTEMS-specific self-contained synchronization objects and use them.

Option 1. and 2. lack support for binary semaphores which are used for task/interrupt synchronization, e.g. Termios.

Option 2. needs run-time evaluation to figure out the actual object variant, e.g. non-recursive, recursive, ceiling, error-checking, robust POSIX mutex.

Option 3. uses hash tables, thus it is not suitable for real-time systems.

Option 1. and 2. lack support for user-defined object names that may help for system diagnostic, tracing and debugging.

Option 4. could be used to avoid all shortcomings of options 1-3. It would be trivial to implement, test and document.

In order to enable user-defined object names one option is to add a const char \*name member to Thread\_queue\_Queue.

**Author:** Trac Migrate 2016-12-20T08:15:06.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 - Use C11 mutexes instead of Classic API priority inheritance.
   ↳semaphores throughout the RTEMS code base as a performance
   ↳optimization and to simplify the application configuration.
2 + The Classic API has some weaknesses:
3
4 - See discussion:
5 + * Dynamic memory (the workspace) is used to allocate object pools.
   ↳This requires a complex configuration with heavy use of the C pre-
   ↳processor.
6 + * Objects are created via function calls which return an object
   ↳identifier. The object operations use this identifier and map it
   ↳internally to an object representation.
7 + * The objects reside in a table, e.g. they are suspect to false
   ↳sharing of cache lines.
8 + * The object operations use a rich set of options and attributes.
   ↳For each object operation these parameters must be evaluated and
   ↳validated at run-time to figure out what to do exactly for this
   ↳operation.
9 +
10 + The overhead for Classic API mutexes used for example in Termios and
   ↳the SPI framework is significant, see discussion:
11
12 https://lists.rtems.org/pipermail/devel/2016-December/016543.html
13 +
14 + There are some API options available:
15 +
16 + 1. Use C11 mutexes and condition variables.
17 + 2. Turn the POSIX synchronization objects into self-contained objects
   ↳and use them.
18 + 3. Use FreeBSD synchronization objects like [MUTEX(9)](https://www.
   ↳freebsd.org/cgi/man.cgi?query=muxem&sektion=9) or [CONDVAR(9)](https://
   ↳www.freebsd.org/cgi/man.cgi?query=condvar&apropos=0&sektion=9&
   ↳manpath=FreeBSD+10.3-RELEASE+and+Ports&arch=default&format=html).
19 + 4. Add RTEMS-specific self-contained synchronization objects and use
   ↳them.

```

(continues on next page)

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```

20 +
21 + Option 1. and 2. lack support for binary semaphores which are used
    ↳ for task/interrupt synchronization, e.g. Termios.
22 +
23 + Option 2. needs run-time evaluation to figure out the actual object
    ↳ variant, e.g. non-recursive, recursive, ceiling, error-checking,
    ↳ robust POSIX mutex.
24 +
25 + Option 3. uses hash tables, thus it is not suitable for real-time
    ↳ systems.
26 +
27 + Option 1. and 2. lack support for user-defined object names that may
    ↳ help for system diagnostic, tracing and debugging.
28 +
29 + Option 4. could be used to avoid all shortcomings of options 1-3. It
    ↳ would be trivial to implement, test and document.
30 +
31 + In order to enable user-defined object names one option is to add a
    ↳ const char *name member to Thread_queue_Queue.
32 +

```

- **Summary** changed from *Use C11 mutexes instead of Classic API priority inheritance semaphores* to *Use self-contained objects instead of Classic API for drivers and support libraries*

**Author:** Chris Johns 2016-12-20T10:23:41.000Z

Original author: sebastian.huber

Can Option 4 be NP extensions to POSIX after Option 2 is done?

**Author:** Trac Migrate 2016-12-20T10:28:54.000Z

Original author: sebastian.huber

Replying to [chrisj](#):

Can Option 4 be NP extensions to POSIX after Option 2 is done?

Binary semaphores are not available out of the box with POSIX. You need a mutex and a condition variable for this, e.g. <http://stackoverflow.com/questions/7478684/how-to-initialise-a-binary-semaphore-in-c>.

Option 4. should be implementable via POSIX to allow to run the software without RTEMS, however, it should use a specialized implementation on RTEMS to minimize run-time and space overheads.

**Author:** Gedare Bloom 2016-12-20T19:34:28.000Z

Original author: sebastian.huber

What are the downsides for self-contained objects? (Is there a clear definition of what self-contained objects are?)

---

**Author:** Trac Migrate 2016-12-21T06:43:21.000Z

---

Original author: sebastian.huber

Self-contained means the user must provide the storage for the object.

<https://sourceware.org/git/gitweb.cgi?p=newlib-cygwin.git;a=blob;f=newlib/libc/sys/rtems/include/sys/lock.h;h=c0549db67cbb559edacbef49584156fb8ac346fd;hb=HEAD>

What you cannot do with self-contained objects is using them in a distributed system with distinct address spaces, e.g. a usage case RTEMS was initially designed for. Here you need one level of indirection to identify objects globally.

With object identifiers you can detect a use of deleted objects under certain conditions. You cannot detect use of a deleted and re-used object. To detect/prevent the use of deleted objects in SMP configurations is quite difficult (e.g. hazard pointers) and not implemented in RTEMS.

From my point of view the advantages of self-contained objects are apparent.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-05-11T07:42:40.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.0"

---

**Author:** Chris Johns 2017-08-14T00:55:55.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"5.0" to %"4.12.0"

Please review and update the milestone. Thanks.

---

**Author:** Joel Sherrill 2017-10-12T02:23:15.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"4.13.0"

---

**Author:** Trac Migrate 2017-11-09T06:26:20.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.13.0" to %"5.0"

---

**Author:** Trac Migrate 2017-11-09T06:26:42.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"5.0" to %"6.1"

Milestone renamed

---

**Author:** Trac Migrate 2018-01-22T09:40:28.000Z

---

Original author: sebastian.huber

In [changeset:"6bc5e47c84141d1523d637084364c9371b87d943/rtems"  
6bc5e47/rtems]:

```
1 smptest: Fix configuration
2
3 Update #2843.
```

---

**Author:** Trac Migrate 2018-02-02T14:21:23.000Z

---

Original author: sebastian.huber

In [changeset:"f14a04c6ef5cde3f812aefd9827eddcf4cf2f13e/rtems"  
f14a04c6/rtems]:

```
1 Add RTEMS thread API
2
3 Update #2843.
```

---

**Author:** Trac Migrate 2018-02-02T14:21:36.000Z

---

Original author: sebastian.huber

In [changeset:"1b2da177ef052c631ab6707a40682ce61537ea49/rtems"  
1b2da177/rtems]:

```
1 libblock: Use self-contained mutex for disk lock
2
3 Update #2843.
```

---

**Author:** Trac Migrate 2018-02-02T14:21:48.000Z

---

Original author: sebastian.huber

In [changeset:"8d7f36807c14ec1d4612d2433eb808ea4e726b47/rtems"  
8d7f3680/rtems]:

```
1 libblock: Use self-contained mutex and cond var
2
3 Update #2843.
```

**Author:** Trac Migrate 2018-02-02T14:22:11.000Z

Original author: sebastian.huber

In [changeset:"dc158ad4ec9546a826d2a4ea3ec09dcbdaa594f2/rtems"  
dc158ad/rtems]:

```
1 i2c: Use self-contained mutex
2
3 Update #2843.
```

**Author:** Trac Migrate 2018-02-02T14:22:23.000Z

Original author: sebastian.huber

In [changeset:"36304f3d7a32fc4e7573fa6f3db2efb437416639/rtems"  
36304f3/rtems]:

```
1 spi: Use self-contained mutex
2
3 Update #2843.
```

**Author:** Trac Migrate 2018-02-02T14:22:35.000Z

Original author: sebastian.huber

In [changeset:"16fc3f9a5463dfbc7b942fd1ea1275eaa834e914/rtems"  
16fc3f9a/rtems]:

```
1 network: Use self-contained recursive mutex
2
3 Update #2843.
```

**Author:** Trac Migrate 2018-02-02T14:22:47.000Z

Original author: sebastian.huber

In [changeset:"b17bcb3855abff75117811fce528b26eb65539a0/rtems"  
b17bcb3/rtems]:



```

1 JFFS2: Use self-contained recursive mutex
2
3 Update #2843.

```

**Author:** Trac Migrate 2018-02-02T14:22:59.000Z

Original author: sebastian.huber

In [changeset:"3b77417ba7a6ad6cb6bbfaeccc4cf0cd7198489/rtems" 3b77417/rtems]:

```

1 dosfs: Use self-contained recursive mutex
2
3 Update #2843.

```

**Author:** Trac Migrate 2018-02-02T14:23:11.000Z

Original author: sebastian.huber

In [changeset:"0940648f6fd85df7fe64a61c4eb3a041fe53f5a1/rtems" 0940648f/rtems]:

```

1 RFS: Use self-contained recursive mutex
2
3 Update #2843.

```

**Author:** Trac Migrate 2018-02-02T14:23:22.000Z

Original author: sebastian.huber

In [changeset:"8ddd92d56ae7c30f086f69c8e2930b44c5a44f1c/rtems" 8ddd92d/rtems]:

```

1 pipe: Use self-contained mutex
2
3 Update #2843.

```

**Author:** Trac Migrate 2018-02-02T14:23:34.000Z

Original author: sebastian.huber

In [changeset:"03e5a7800d31173434f98edc315d6e4be0bf13c2/rtems" 03e5a780/rtems]:

```

1 NFS: Use self-contained recursive mutex
2
3 Update #2843.

```

---

**Author:** Chris Johns 2018-02-04T22:31:46.000Z

---

Original author: sebastian.huber

These changes are fantastic. It is so nice after all this time to see the internal allocation issue being solved in this way. Thank you.

---

**Author:** Trac Migrate 2018-02-05T08:47:18.000Z

---

Original author: sebastian.huber

In [changeset:"1472f8411b37795600fcf2cecac1f0fce0705590/rtems-docs" 1472f84/rtems-docs]:

```
1 c-user: Add self-contained objects chapter
2
3 Update #2843.
```

---

**Author:** Trac Migrate 2018-02-05T08:58:31.000Z

---

Original author: sebastian.huber

In [changeset:"53b6484d3827fc93aae2d4c168cdb07f8496eb9/rtems" 53b6484/rtems]:

```
1 termios: Remove obsolete configuration options
2
3 Update #2843.
```

---

**Author:** Trac Migrate 2018-02-05T09:01:16.000Z

---

Original author: sebastian.huber

In [changeset:"08514040bb4daec0e2b566e8ab3eee9037d64e5a/rtems-docs" 0851404/rtems-docs]:

```
1 c-user: Document obsolete termios config options
2
3 Update #2843.
```

---

**Author:** Trac Migrate 2018-02-05T10:39:43.000Z

---

Original author: sebastian.huber

In [changeset:"8b3da1329bc95d559ba1d7b562cbf93f9ca92156/rtems-libbsd" 8b3da13/rtems-libbsd]:

```

1 terminos: Update due to API changes
2
3 Update #2843.

```

**Author:** Trac Migrate 2018-02-05T11:14:17.000Z

Original author: sebastian.huber

- **Milestone** changed from %”6.1” to %”5.1”

**Author:** Trac Migrate 2018-02-07T13:14:31.000Z

Original author: sebastian.huber

In [changeset:”e16111b2cf1640a2ddb1cf3910c76836f875d465/rtems”  
e16111b/rtems]:

```

1 NFS: Fix use of self-contained objects
2
3 Update #2843.

```

**Author:** Trac Migrate 2018-02-08T08:16:35.000Z

Original author: sebastian.huber

In [changeset:”c8d5bed13cae21d2920b8f32a242ee1eacd88b81/rtems”  
c8d5bed/rtems]:

```

1 libblock: Use self-contained mutex for nvdisk
2
3 Update #2843.

```

**Author:** Trac Migrate 2018-02-08T08:16:50.000Z

Original author: sebastian.huber

In [changeset:”f9027ccfd35245017ef93fa4f7f0db59e83a0eaf/rtems”  
f9027ccf/rtems]:

```

1 libblock: Use self-contained mutex for flashdisk
2
3 Update #2843.

```

**Author:** Trac Migrate 2018-02-08T08:17:02.000Z

Original author: sebastian.huber

In [changeset:"868ca746c21c9cb0743bec597687b5354230c8ba/rtems"  
868ca746/rtems]:

```
1 libblock: Use self-contained mutex for sparse disk
2
3 Update #2843.
```

**Author:** Trac Migrate 2018-02-08T08:17:17.000Z

Original author: sebastian.huber

In [changeset:"a59a61828b8cdabb448534044778e2c07da11dd3/rtems"  
a59a6182/rtems]:

```
1 libblock: Use self-contained mutex for media
2
3 Update #2843.
```

**Author:** Trac Migrate 2018-02-08T08:17:32.000Z

Original author: sebastian.huber

In [changeset:"0a593c2d3f2fb176591da4df9d15bed42453df41/rtems"  
0a593c2d/rtems]:

```
1 ftpd: Use self-contained synchronization objects
2
3 Update #2843.
```

**Author:** Trac Migrate 2018-02-08T08:17:45.000Z

Original author: sebastian.huber

In [changeset:"d9800ac58d8da580053845c61f1633aec4fb107e/rtems"  
d9800ac/rtems]:

```
1 libdl: Use self-contained recursive mutex
2
3 Update #2843.
```

**Author:** Trac Migrate 2018-02-08T08:17:59.000Z

Original author: sebastian.huber

In [changeset:"87b7117ffdbed0afdafc929f1f6d864d6132e96a/rtems"  
87b7117f/rtems]:

```

1 libdl: Use self-contained mutex for RAP
2
3 Update #2843.

```

**Author:** Trac Migrate 2018-02-08T08:18:12.000Z

Original author: sebastian.huber

In [changeset:"71a84461d59d28fa69731c4a0224f50978bdd6e5/rtems" 71a8446/rtems]:

```

1 libdl: Fix potential overwrite of dest buffer
2
3 Update #2843.

```

**Author:** Trac Migrate 2018-02-08T08:18:26.000Z

Original author: sebastian.huber

In [changeset:"3535439f5c5faffeabe0c8f4a4694f1b24352db5/rtems" 3535439f/rtems]:

```

1 tftps: Use self-contained mutex
2
3 Update #2843.

```

**Author:** Trac Migrate 2018-02-08T08:18:38.000Z

Original author: sebastian.huber

In [changeset:"2aa5b98c321f0926e9b4e1ee50eb986400423f65/rtems" 2aa5b98/rtems]:

```

1 syslog: Use self-contained recursive mutex
2
3 Update #2843.

```

**Author:** Trac Migrate 2018-02-08T08:18:51.000Z

Original author: sebastian.huber

In [changeset:"2fd3111708e92f683039d651dd1d756da3f4a8c2/rtems" 2fd31117/rtems]:

```

1 stdio-redirector: Use self-contained mutex
2
3 Update #2843.

```

**Author:** Trac Migrate 2018-02-08T08:38:11.000Z

Original author: sebastian.huber

In [changeset:"9ace264875b64bfa36246d51f969c325bd0407b0/rtems" 9ace2648/rtems]:

```
1 fdt: Use self-contained mutex
2
3 Update #2843.
```

**Author:** Trac Migrate 2018-02-08T08:59:06.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

All cpukit services use now self-contained objects, except:

- gxx\_wrappers.c (legacy, would need GCC patch)
- ada\_intrsupp.c (would need GCC patch)
- libi2c.c (legacy, I2C drivers should use new framework)
- sse\_test.c (seems to be dead code)

4.2.1.581 3294 - gcc version report for released tools is wrong.

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3294                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2018-02-07T04:25:48.000Z                                                                                            |
| <b>Updated</b>     | 2018-02-07T21:48:28.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3294">https://gitlab.rtems.org/rtems/rtems/-/issues/3294</a> |
| <b>Merges</b>      | 0                                                                                                                   |

The release gcc version string has the RTEMS release and not the actual release.

**Author:** Trac Migrate 2018-02-07T21:48:28.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"858b6488e4959036ffdecaec0e3144606be5f63d/rtems-source-builder" 858b648/rtems-source-builder]:

```

1 gcc: Use the RSB release for released tools.
2
3 Using the RSB release version for the gcc version string means the
4 tools have a version string that matches the release.
5
6 Close #3294

```

#### 4.2.1.582 3290 - Add device tree support to Altera/Intel Cyclone V BSP

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3290                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2018-02-05T12:54:38.000Z                                                                                                      |
| <b>Updated</b>     | 2018-02-06T09:03:13.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:arm, priority::normal, resolution::fixed, tickettype::enhancement, version::4.11                                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3290">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3290</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

**Author:** Trac Migrate 2018-02-05T12:55:45.000Z

Original author: sebastian.huber

In [changeset:"3454179dee112a96ddfc435b0d5fb9a16e766330/rtems" 3454179/rtems]:

```

1 bsp/altera-cyclone-v: Add device tree support
2
3 Update #3290.

```

**Author:** Trac Migrate 2018-02-06T09:03:13.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"c30fa94277cfdf2c8a7e0a6206d31a506453a491/rtems-libbsd" c30fa94/rtems-libbsd]:

```

1 Add device tree support for Altera/Intel Cyclone V
2
3 Close #3290.

```

## 4.2.1.583 3270 - Remove unused support for MPC505

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3270                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2018-01-04T14:37:28.000Z                                                                                                      |
| <b>Updated</b>     | 2018-02-05T11:13:20.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:powerpc, priority::normal, resolution::fixed, tickettype::task, version::5                                               |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3270">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3270</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

There is some support for MPC505 in libcpu, however, I cannot find a BSP for this code. Remove this apparently dead code.

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Trac Migrate    2018-02-05T11:13:20.000Z |
|---------------------------------------------------------|

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"0f4a7391bb96dd8170c7f37d67cd0bf19d68e2ac/rtems" 0f4a7391/rtems]:

```

1 bsps/powerpc: Remove support for mpc505
2
3 Close #3270.

```



## 4.2.1.584 3281 - Add epiphany support to GDB 8.0.0

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3281                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2018-01-26T08:06:09.000Z                                                                                            |
| <b>Updated</b>     | 2018-02-05T10:43:30.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::wontfix, tickettype::enhancement, tool::gdb, version::5                               |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3281">https://gitlab.rtems.org/rtems/rtems/-/issues/3281</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

- [gdb-8.0.0-epiphany.patch](#)

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2018-01-26T08:06:50.000Z |
|-----------------------------|--------------------------|

Original author: sebastian.huber

- **Attachment** [gdb-8.0.0-epiphany.patch](#) added

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2018-02-05T10:43:30.000Z |
|-----------------------------|--------------------------|

Original author: sebastian.huber

- **Resolution** set to ~"wontfix"
- **Status** changed from *assigned* to *closed*

GDB is support for ephiphany is not integrated in the FSF GDB. Adapteva didn't respond to e-mails.

## 4.2.1.585 3277 - QorIQ: Add MAC-less DPAA driver to libbsd

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3277                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2018-01-23T13:54:06.000Z                                                                                            |
| <b>Updated</b>     | 2018-02-05T10:41:20.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | libbsd, priority::normal, resolution::fixed, tickettype::enhancement, version::5                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3277">https://gitlab.rtems.org/rtems/rtems/-/issues/3277</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The SDK Linux DPAA driver supports a so called MAC-less interface driver. This driver allows Ethernet communication between guest systems of a hypervisor.

**Author:** Trac Migrate 2018-01-23T13:57:00.000Z

Original author: sebastian.huber

In [changeset:"fe05886a55266eecf8c4e3fb62856c5ce0889967/rtems-libbsd"  
fe05886/rtems-libbsd]:

```
1 linux/compiler.h: Define __cold
2
3 Update #3277.
```

**Author:** Trac Migrate 2018-01-23T13:57:09.000Z

Original author: sebastian.huber

In [changeset:"583216ab227f0fa9dbcbbaa9858dd8299234f163/rtems-libbsd"  
583216a/rtems-libbsd]:

```
1 linux/smp.h: Avoid function call overhead
2
3 Update #3277.
```

**Author:** Trac Migrate 2018-01-23T13:57:19.000Z

Original author: sebastian.huber

In [changeset:"066b53639771843cbc4da6cc3587248dd1176a06/rtems-libbsd"  
066b536/rtems-libbsd]:

```
1 linux/sort.h: New file
2
3 Update #3277.
```

**Author:** Trac Migrate 2018-01-23T13:57:28.000Z

Original author: sebastian.huber

In [changeset:"0d421d850eea96c817aa6e9c5a4f734ff0c94bfa/rtems-libbsd"  
0d421d8/rtems-libbsd]:

```
1 linux/of.h: Add of_n_addr_cells()
2
3 Update #3277.
```

---

**Author:** Trac Migrate 2018-01-23T13:57:38.000Z

---

Original author: sebastian.huber

In [changeset:"26ce2ac4281362a84e1e77045946a1730c5128d8/rtems-libbsd"  
26ce2ac/rtems-libbsd]:

```
1 linux/of.h: Add of_n_size_cells()  
2  
3 Update #3277.
```

---

**Author:** Trac Migrate 2018-01-23T13:57:47.000Z

---

Original author: sebastian.huber

In [changeset:"44fca38058e84442940cad05a0a53696f2744729/rtems-libbsd"  
44fca38/rtems-libbsd]:

```
1 linux/of.h: Add of_read_number()  
2  
3 Update #3277.
```

---

**Author:** Trac Migrate 2018-01-23T13:57:57.000Z

---

Original author: sebastian.huber

In [changeset:"81fc57de35c529840c90028254d26766ec75b98e/rtems-libbsd"  
81fc57d/rtems-libbsd]:

```
1 linux/of.h: Add of_find_node_by_path()  
2  
3 Update #3277.
```

---

**Author:** Trac Migrate 2018-01-23T13:58:06.000Z

---

Original author: sebastian.huber

In [changeset:"0f1d2f6174999b574b57a4fc268ce9a3c618d55f/rtems-libbsd"  
0f1d2f6/rtems-libbsd]:

```
1 linux/of_address.h: Add of_translate_address()  
2  
3 Update #3277.
```

---

**Author:** Trac Migrate 2018-01-23T13:58:16.000Z

---

Original author: sebastian.huber

In [changeset:"e4923c85c950f499259dd0efb0fe8b63ca1164b0/rtems-libbsd" e4923c8/rtems-libbsd]:

```
1 linux/of_address.h: of_address_to_resource()
2
3 Translate address in of_address_to_resource().
4
5 Update #3277.
```

**Author:** Trac Migrate 2018-01-23T13:58:25.000Z

Original author: sebastian.huber

In [changeset:"cfc149bff3044b5029c2b574d5d3de05b979bf62/rtems-libbsd" cfc149b/rtems-libbsd]:

```
1 linux/of_irq.h: Generalize of_irq_to_resource()
2
3 Determine interrupt cells via device tree.
4
5 Update #3277.
```

**Author:** Trac Migrate 2018-01-23T13:58:35.000Z

Original author: sebastian.huber

In [changeset:"2fba1e4322f2aa1f8060d4e5cea47a3e5f2236bb/rtems-libbsd" 2fba1e4/rtems-libbsd]:

```
1 dpaa: Remove unused configuration defines
2
3 Update #3277.
```

**Author:** Trac Migrate 2018-01-23T13:58:44.000Z

Original author: sebastian.huber

In [changeset:"bdf9931603967ee174f342c363d61c3d7704529b/rtems-libbsd" bdf99316/rtems-libbsd]:

```
1 dpaa: Disable unused bman_pool members
2
3 Update #3277.
```

**Author:** Trac Migrate 2018-01-23T13:58:54.000Z

Original author: sebastian.huber

In [changeset:"34b7ccccdef3e4c8a087e6b8014ec97caf40674e/rtems-libbsd" 34b7ccc/rtems-libbsd]:

```
1 dpaa: Support FQ_TYPE_RX_PCD
2
3 Update #3277.
```

**Author:** Trac Migrate 2018-01-23T13:59:03.000Z

Original author: sebastian.huber

In [changeset:"1342fad09c897f2bec6780d96cfb550ba395eb9d/rtems-libbsd" 1342fad/rtems-libbsd]:

```
1 dpaa: Add and use SDK_DPAA_COMPAT_STATIC
2
3 Update #3277.
```

**Author:** Trac Migrate 2018-01-23T13:59:12.000Z

Original author: sebastian.huber

In [changeset:"95fe5b1f46607bebf80fb843f2e89f58e0d0e1f7/rtems-libbsd" 95fe5b1/rtems-libbsd]:

```
1 dpaa: Use device tree throughout in BMan init
2
3 Update #3277.
```

**Author:** Trac Migrate 2018-01-23T13:59:22.000Z

Original author: sebastian.huber

In [changeset:"a7d252c645c59e877fe468e4c3e33dde47381d7c/rtems-libbsd" a7d252c/rtems-libbsd]:

```
1 dpaa: Add and use bman_new_pool_for_bpid()
2
3 Update #3277.
```

**Author:** Trac Migrate 2018-01-23T13:59:32.000Z

Original author: sebastian.huber

In [changeset:"0f6ff4a923384618e979e106051b36c2db126791/rtems-libbsd" 0f6ff4a/rtems-libbsd]:

```

1 dpaa: QMan portal only initialization
2
3 Update #3277.

```

**Author:** Trac Migrate 2018-01-23T13:59:41.000Z

Original author: sebastian.huber

In [changeset:"f5ed3aa62075849b1687731349e5b679c732118a/rtems-libbsd" f5ed3aa/rtems-libbsd]:

```

1 sdk_dpaa: Import from QorIQ SDK Linux
2
3 http://git.freescale.com/git/cgit.cgi/ppc/sdk/linux.git
4
5 Commit 1ae843c08261402b2c35d83422e4fa1e313611f4 (fsl-sdk-v2.0-1703).
6
7 Update #3277.

```

**Author:** Trac Migrate 2018-01-23T13:59:51.000Z

Original author: sebastian.huber

In [changeset:"d62a3df1c770a64aff894bb3e698130ddf722ad0/rtems-libbsd" d62a3df/rtems-libbsd]:

```

1 sdk_dpaa: Port to RTEMS
2
3 Update #3277.

```

**Author:** Trac Migrate 2018-01-23T14:00:00.000Z

Original author: sebastian.huber

In [changeset:"327f4e1029ae2b332fa7f9fd2521dead00d401e1/rtems-libbsd" 327f4e1/rtems-libbsd]:

```

1 sdk_dpaa: What to do with tail queue drop?
2
3 The issue is this:
4
5 static int dpaa_eth_macless_probe(struct platform_device *_of_dev)
6 {
7     [...]
8     INIT_LIST_HEAD(&priv->dpa_fq_list);
9
10    err = dpa_fq_probe_macless(dev, &priv->dpa_fq_list, RX);
11    if (!err)

```

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```

12 err = dpa_fq_probe_macless(dev, &priv->dpa_fq_list,
13 TX);
14 if (err < 0)
15 goto fq_probe_failed;
16 [...]
17 /* Add the FQs to the interface, and make them active */
18 /* For MAC-less devices we only get here for RX frame queues
19 * initialization, which are the TX queues of the other
20 * partition.
21 * It is safe to rely on one partition to set the FQ taildrop
22 * threshold for the TX queues of the other partition
23 * because the ERN notifications will be received by the
24 * partition doing qman_enqueue.
25 */
26 err = dpa_fqs_init(dev, &priv->dpa_fq_list, true);
27 if (err < 0)
28 goto fq_alloc_failed;
29 [...]
30
31 The priv->dpa_fq_list contains a list of FQ_TYPE_RX_PCD and FQ_TYPE_TX
32 items. I don't understand what the "For MAC-less devices we only get
33 here for RX frame queues initialization" means in this context. The
34 td_enable == true in dpa_fqs_init(). So, we have:
35
36 int dpa_fq_init(struct dpa_fq *dpa_fq, bool td_enable)
37 {
38 [...]
39 if (dpa_fq->fq_type == FQ_TYPE_TX ||
40 dpa_fq->fq_type == FQ_TYPE_TX_CONFIRM ||
41 dpa_fq->fq_type == FQ_TYPE_TX_CONF_MQ) {
42 [...]
43 initfq.we_mask |= QM_INITFQ_WE_OAC;
44 [...]
45 }
46
47 if (td_enable) {
48 initfq.we_mask |= QM_INITFQ_WE_TDTHRESH;
49 qm_fqd_taildrop_set(&initfq.fqd.td,
50 DPA_FQ_TD, 1);
51 initfq.fqd.fq_ctrl = QM_FQCTRL_TDE;
52 }
53
54 The td_enable == true && dpa_fq->fq_type == FQ_TYPE_TX causes later:
55
56 int qman_init_fq(struct qman_fq *fq, u32 flags, struct qm_mcc_initfq_
57 ↪ *opts)
58 {
59 [...]
60 if (opts && (opts->we_mask & QM_INITFQ_WE_OAC)) {

```

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```

60 /* And can't be set at the same time as TDTHRESH */
61 if (opts->we_mask & QM_INITFQ_WE_TDTHRESH)
62 return -EINVAL;
63 }
64
65 This aborts the initialization of the MAC-less driver. I don't
66 understand why this path doesn't happen on the SDK Linux system.
67
68 Update #3277.

```

---

**Author:** Trac Migrate 2018-02-05T10:41:20.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

## 4.2.1.586 3264 - Add monotonic watchdog based on uptime

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3264                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-12-21T12:41:55.000Z                                                                                                      |
| <b>Updated</b>     | 2018-02-05T10:39:52.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3264">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3264</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The CLOCK\_MONOTONIC time services use currently the clock tick based watchdog. This is a problem in case the uptime (measured via the timercounter) and the ticks since boot drift away (measured via the clock ticks). Introduce a new watchdog which uses the uptime. The memory overhead is quite small (two pointers per processor).

---

**Author:** Trac Migrate 2018-02-02T14:20:36.000Z

---

Original author: sebastian.huber

In [changeset:"89c0313938aea0618a624b7230ed29cebe723d75/rtems"  
89c0313/rtems]:



```

1 score: Optimize watchdog tickle
2
3 Avoid unnecessary lock acquire/release operations.  Get realtime via
4 timecounter only if necessary.
5
6 Update #3264.

```

**Author:** Trac Migrate 2018-02-02T14:20:48.000Z

Original author: sebastian.huber

In [changeset:"3a4e044e6461a6f03edbae94ca6efd91d4c206de/rtems" 3a4e044/rtems]:

```

1 score: Rename _Watchdog_Realtime_from_*()
2
3 Rename _Watchdog_Realtime_from_*() to _Watchdog_Ticks_from_*().
4
5 Update #3264.

```

**Author:** Trac Migrate 2018-02-02T14:21:00.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"9480815a222be61214b176836ef2b4ae4155ce84/rtems" 9480815a/rtems]:

```

1 score: Introduce new monotonic clock
2
3 Rename PER_CPU_WATCHDOG_MONOTONIC to PER_CPU_WATCHDOG_TICKS.  Add new
4 PER_CPU_WATCHDOG_MONOTONIC which is based on the system uptime (measured
5 by timecounter).
6
7 Close #3264.

```

**Author:** Trac Migrate 2018-02-05T10:39:52.000Z

Original author: sebastian.huber

In [changeset:"a0633c51dbd1aa2ba13e9bdd8c8737edb61b953d/rtems-libbsd" a0633c5/rtems-libbsd]:

```

1 SLEEPQUEUE(9): Update due to API changes
2
3 Update #3264.

```

4.2.1.587 1662 - `termios.c`: semaphore not deleted, consequently resulting in failure of `rtems_termios_open`

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 1662                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2010-08-09T17:52:00.000Z                                                                                                      |
| <b>Updated</b>     | 2018-02-05T07:53:24.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | filesystem, priority::normal, resolution::fixed, tickettype::defect, version::4.11, version::HEAD                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/1662">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/1662</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: bharath.s.jois

The semaphore `osem` is still in use in `rtems_termios_close` while an attempt to delete it is made and hence is not deleted. Consequently, it results in a `RTEMS_TOO_MANY` on `rtems_semaphore_create`, which further results in failure of `rtems_termios_open`.

- [cpukit-ChangeLog-changes.txt](#)
- [libcsupport-changes.diff](#)
- [termios01-init-changes.diff](#)

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2010-08-09T18:00:52.000Z |
|------------------------------------------------------|

Original author: bharath.s.jois

- **Attachment** [libcsupport-changes.diff](#) added

Patch @ cpukit/libcsupport

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2010-08-09T18:01:32.000Z |
|------------------------------------------------------|

Original author: bharath.s.jois

- **Attachment** [cpukit-ChangeLog-changes.txt](#) added

Updated ChangeLog @ cpukit/

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2010-08-10T18:09:00.000Z |
|------------------------------------------------------|

Original author: bharath.s.jois

- **Cc** added @@joel
- **Cc** added @sebastian.huber
- **Attachment** [termios01-init-changes.diff](#) added

Patch to testsuites/libtests/termios01/init.c

**Author:** Trac Migrate 2010-08-12T06:36:21.000Z

Original author: bharath.s.jois

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*
- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

Let me explain the problem with the clean up during the last close. The Termios driver is an example for a driver that will be opened by one thread, but the read and write access may be issued by different threads concurrently. The close may happen also concurrently (exit() may be called concurrently?). I think a concurrent call to close() will lead to more problems, so I omit this here. I think currently that the only way to avoid accesses to deleted resources is to not delete anything during the last close. Instead we should simply flush the output buffer.

**Author:** Gedare Bloom 2014-11-24T18:58:28.000Z

Original author: bharath.s.jois

- **Version** changed from ~"HEAD" to ~"4.11"

Replace Version=HEAD with Version=4.11 for the tickets with Milestone >= 4.11

**Author:** Gedare Bloom 2014-12-19T03:53:23.000Z

Original author: bharath.s.jois

- **Description** changed

```

1 The semaphore osem is still in use in rtems_termios_close while an
  ↪ attempt to delete it is made and hence is not deleted.
2 -
3 Consequently, it results in a RTEMS_TOO_MANY on rtems_semaphore_create,
  ↪ which further results in failure of rtems_termios_open.
```

- **Milestone** changed from %"4.11" to %"4.11.1"

**Author:** Trac Migrate 2017-01-26T07:16:00.000Z

Original author: bharath.s.jois

- **Milestone** changed from %"4.11.1" to %"4.11.2"

**Author:** Chris Johns 2017-03-23T01:03:28.000Z

Original author: bharath.s.jois

- **Milestone** changed from %”4.11.2” to %”4.11.3”

The 4.11.2 milestone is closing.

|                                                        |
|--------------------------------------------------------|
| <b>Author:</b> Chris Johns    2018-02-05T05:55:12.000Z |
|--------------------------------------------------------|

Original author: bharath.s.jois

What should happen with this ticket?

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Trac Migrate    2018-02-05T07:53:24.000Z |
|---------------------------------------------------------|

Original author: bharath.s.jois

- **Milestone** changed from %”4.11.3” to %”5.1”
- **Resolution** set to ~”fixed”
- **Status** changed from *reopened* to *closed*

Due to the reference counting of file descriptors (#3132) this problem no longer exists in RTEMS 5.1. If you close() a file descriptor which is still in use, you get an error (EBUSY).

#### 4.2.1.588 2363 - SPARC: Silent FP context corruption possible

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2363                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-06-09T07:40:10.000Z                                                                                                      |
| <b>Updated</b>     | 2018-02-05T07:49:50.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:sparc, priority::lowest, resolution::duplicate, rtems::score, ticket-type::defect, version::4.11                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2363">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2363</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

On uni-processor configurations the post-switch actions (e.g. signal handlers) and context switch extensions may silently corrupt the floating point context. Set test sptests/spcontext01.

This problem exists for many years and might be working as intended. It is possible to fix this issue using the SPARC\_USE\_SAFE\_FP\_SUPPORT option. This is already used for the SMP configurations. The disadvantage is that this disables the deferred floating point support.

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Trac Migrate    2017-01-26T07:16:00.000Z |
|---------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.11.1" to %"4.11.2"

|                                                        |
|--------------------------------------------------------|
| <b>Author:</b> Chris Johns    2017-03-23T01:04:45.000Z |
|--------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.11.2" to %"4.11.3"

The 4.11.2 milestone is closing.

|                                                        |
|--------------------------------------------------------|
| <b>Author:</b> Chris Johns    2018-02-05T04:39:20.000Z |
|--------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.11.3" to %"Indefinite"

Requires funding.

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Trac Migrate    2018-02-05T07:49:50.000Z |
|---------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"5.1"
- **Resolution** set to ~"duplicate"
- **Status** changed from *new* to *closed*

Fixed by [#3077](#).

4.2.1.589 3265 - Use second one based uptime for CLOCK\_MONOTONIC for FreeBSD compatibility

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3265                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-12-22T12:39:56.000Z                                                                                                      |
| <b>Updated</b>     | 2018-02-02T14:21:12.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, tickettype::enhancement, version::5                                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3265">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3265</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

This simplifies the CLOCK\_MONOTONIC based time services. It is potentially important for libbsd.

**Author:** Trac Migrate 2018-02-02T14:21:12.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"8fa4549eb21d775496cc667064cc39c680137f58/rtems"8fa4549/rtems]:

```
1 posix: Use one second based CLOCK_MONOTONIC
2
3 This simplifies the CLOCK_MONOTONIC based time services. It is
4 potentially important for libbsd.
5
6 Close #3265.
```

#### 4.2.1.590 3284 - RSB uses hard coded GCC binary paths

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3284                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2018-01-30T09:36:36.000Z                                                                                            |
| <b>Updated</b>     | 2018-02-01T06:14:47.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3284">https://gitlab.rtems.org/rtems/rtems/-/issues/3284</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

In order to build a tool chain with Ada support you need a native GCC with Ada support of the same version as the cross compiler. The RSB uses hard coded paths for the gcc and g++ programs:

```
1 source-builder/defaults.mc:__cc:           exe,      required, '/usr/bin/gcc'
2 source-builder/defaults.mc:__cxx:          exe,      required, '/usr/bin/g++'
```

So, the RSB user must change the main GCC installation of the machine to build a particular RTEMS tool chain. This is undesired/infeasible in most situations.

**Author:** Chris Johns 2018-01-31T00:03:21.000Z

Original author: sebastian.huber

I am OK with changing this to 'gcc' and 'g++'. There are a few other paths that could be relaxed, ie I remembering seeing something in your build logs.

This is something that has appeared as the RSB ages.

**Author:** Trac Migrate 2018-02-01T06:14:47.000Z

Original author: sebastian.huber

- **Owner** set to Sebastian Huber <[sebastian.huber@embedded-brains.de](mailto:sebastian.huber@embedded-brains.de)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"2a5c9da4898242750dcb295e48636b9f0f0d9e2e/rtems-source-builder" 2a5c9da/rtems-source-builder]:

```

1 Avoid hard coded GCC binary paths
2
3 In order to build a tool chain with Ada support a native GCC with Ada
4 support of the same version as the cross compiler is required. The RSB
5 used hard coded paths for the gcc and g++ programs. This forced the RSB
6 user to change the main GCC installation of the machine to build a
7 particular RTEMS tool chain. This is undesired/infeasible in most
8 situations.
9
10 Close #3284.
```

#### 4.2.1.591 3173 - Xilinx AXI I2C driver IP race condition causes clock glitch.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3173                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-10-09T10:50:41.000Z                                                                                                      |
| <b>Updated</b>     | 2018-02-01T04:00:19.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:arm, priority::normal, resolution::fixed, rtems::score, ticket-type::defect, version::5                                  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3173">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3173</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The Xilinx AXI I2C IP has a race condition when the PIRQ read FIFO level is reached and the clock is throttling.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

**Author:** Trac Migrate 2018-02-01T04:00:19.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”05015dc1886d08e9f9f3ed453688c52cebd4cc3f/rtems”  
05015dc1/rtems]:

```

1 Xilinx AXI I2C driver IP race condition causes clock glitch.
2
3 Setting the PIRQ to 0 before reading the data produces a short clock
  ↳ pulse.
4 Moving the write to after reading the data fixes the issue.
5
6 Close #3173

```

#### 4.2.1.592 3278 - bsp-builder has incorrect print (%s in output)

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3278                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2018-01-23T21:18:19.000Z                                                                                                      |
| <b>Updated</b>     | 2018-01-31T23:52:37.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool, version::5                                                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3278">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3278</a> |
| <b>Merges</b>      | 0                                                                                                                             |

I don’t think the tools have branches so only impacts master.

Notice the “run: %s:”

```

[1114/1565] powerpc/mpc5674fevb (profiling) Configuring run: %s:
powerpc/mpc5674fevb.profiling/home/joel/rtems-work/rtems/configure -target=powerpc-
rtems5-enable-rtemsbsp=mpc5674fevb -prefix=/home/joel/rtems-work/bsps-enable-
profiling

```

**Author:** Joel Sherrill 2018-01-23T21:18:35.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2018-01-31T23:52:37.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”005f995a80b6763b7efa211d4b26ad462aeb6183/rtems-tools”  
005f995/rtems-tools]:



```

1 rtems-bsp-builder: Remove stray %s from the run log message.
2
3 Close #3278

```

## 4.2.1.593 3283 - Bad URL in OpenOCD/Xilinx\_Zynq Wiki Page

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3283                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2018-01-26T15:10:31.000Z                                                                                                      |
| <b>Updated</b>     | 2018-01-31T00:11:55.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3283">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3283</a> |
| <b>Merges</b>      | 0                                                                                                                             |

[https://devel.rtems.org/wiki/Debugging/OpenOCD/Xilinx\\_Zynq](https://devel.rtems.org/wiki/Debugging/OpenOCD/Xilinx_Zynq) has a link to the Zedboard Processor Debug Adapter. I think the URL has changed to this but would like someone more knowledgeable to confirm that before it is changed.

<http://zedboard.org/accessories/zedboard-processor-debug-adapter>

**Author:** Joel Sherrill 2018-01-26T15:10:44.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

**Author:** Chris Johns 2018-01-31T00:11:55.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Wiki page links have been updated.

## 4.2.1.594 3111 - Newlib: Change time\_t and clock\_t integer types to 64-bit

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3111                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-08-24T06:57:06.000Z                                                                                                      |
| <b>Updated</b>     | 2018-01-29T05:59:28.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, tool, tool::newlib, version::4.12, version::5                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3111">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3111</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

**Author:** Trac Migrate 2017-08-24T07:26:05.000Z

Original author: sebastian.huber

- **Summary** changed from *Newlib: Change time\_t and clock\_t integer types to at 64-bit* to *Newlib: Change time\_t and clock\_t integer types to 64-bit*

**Author:** Trac Migrate 2017-08-25T12:37:43.000Z

Original author: sebastian.huber

In [changeset:"4f364ef763f6c08bf9ba7ac3ede2a4288fdd517c/rtems-source-builder" 4f364ef/rtems-source-builder]:

```

1 4.12: Change clock_t to 64-bit
2
3 Update #2135.
4 Update #3111.
```

**Author:** Trac Migrate 2017-10-05T12:34:58.000Z

Original author: sebastian.huber

In [changeset:"76d9db31feb7835c66f926d280ea717b7933e152/rtems-source-builder" 76d9db3/rtems-source-builder]:

```

1 4.12: Update to Newlib 2.5.0.20170922
2
3 The time_t is now a 64-bit signed integer.
4
5 This update includes a patch to introduce the self-contained POSIX
```

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```

6 synchronization objects.
7
8 Update #2514.
9 Update #3111.
10 Update #3112.
11 Update #3113.
12 Update #3114.
13 Update #3115.
14 Update #3116.

```

**Author:** Trac Migrate 2017-10-05T12:35:53.000Z

Original author: sebastian.huber

In [changeset:"e46a075d35fa821b9d5f841032149d74e828be2b/rtems" e46a075/rtems]:

```

1 Enforce compatible Newlib version
2
3 This Newlib check ensures that we have a 64-bit time_t and
4 self-contained POSIX synchronization objects.
5
6 Update #2514.
7 Update #3111.
8 Update #3112.
9 Update #3113.
10 Update #3114.
11 Update #3115.
12 Update #3116.

```

**Author:** Trac Migrate 2017-10-06T07:43:41.000Z

Original author: sebastian.huber

In [changeset:"900fda456746edd03268467294c386e8c2b28af1/rtems" 900fda45/rtems]:

```

1 rtems: Fix format warnings
2
3 Update #3111.

```

**Author:** Trac Migrate 2017-10-09T05:24:27.000Z

Original author: sebastian.huber

In [changeset:"6489bcbfeeb2d52100c738da4a48951a2ceec88a/rtems" 6489bcb/rtems]:

```

1 psxtests/psx05: Fix timeout calculation
2
3 Update #3111.

```

---

**Author:** Joel Sherrill 2017-10-12T00:17:33.000Z

---

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Sebastian .. is this ready to close or is there something left to do?

---

**Author:** Trac Migrate 2017-10-12T11:19:49.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*
- **Version** set to ~"4.12"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

---

**Author:** Trac Migrate 2018-01-29T05:59:28.000Z

---

Original author: sebastian.huber

In [changeset:"d8de6b9dbe4ab1ef375ecce55e8bfb1028c5dd13/rtems"  
d8de6b9/rtems]:

```

1 ada: Fix RTEMS.Time_t
2
3 Update #3111.

```

## 4.2.1.595 3268 - PowerPC BSP include naming mess.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3268                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2018-01-01T00:01:11.000Z                                                                                                      |
| <b>Updated</b>     | 2018-01-22T11:32:08.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:powerpc, priority::normal, resolution::fixed, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3268">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3268</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The PowerPC BSP family headers need some refactoring for the RTEMS 5 release. The BSP family relies on the preinstall process to get suitable headers installed to work and removing preinstall exposes this. The specific issue appears with `irq.h` when building the no-preinstall branch. There is a PowerPC BSP family header and a number of BSPs also have an `irq.h` which overrides families header. The code has `#include <bsp/irq.h>` and the header used depends on the include order on the GCC command line. This is fragile for any user. These headers needs to be moved to BSP specific paths, for example `#include <mvme3100/irq.h>`.

**Author:** Chris Johns 2018-01-01T01:16:31.000Z

Add on to the list `i2c.h` in the `mpc5200`.

**Author:** Trac Migrate 2018-01-04T06:19:59.000Z

In [changeset:"e1c0d676d79da20bb5140043d388e2d9aa815421/rtems" e1c0d67/rtems]:

```
1 bsp/mpc55xxevb: Move <bsp/irq.h>
2
3 Update #3254.
4 Update #3268.
```

**Author:** Trac Migrate 2018-01-04T06:21:02.000Z

In [changeset:"fb01816bd24b6398d717a69d2b95327ffb8607d5/rtems" fb01816b/rtems]:

```
1 bsps/powerpc: Move shared irq.h
2
3 This header file is only used by motorola_powerpc, so not shared.
4
```

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(continued from previous page)

5 Update #3254.  
6 Update #3268.

**Author:** Trac Migrate 2018-01-22T11:32:08.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

This problem was fixed by [d898f6e18ec2e84977edb5024052ecca64cf39f3/rtems].

#### 4.2.1.596 3260 - libpci depends on BSP-specific header files

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3260                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-12-12T07:46:12.000Z                                                                                                      |
| <b>Updated</b>     | 2018-01-04T06:21:50.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:sparc, priority::normal, resolution::fixed, tickettype::defect, version::5                                               |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3260">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3260</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The libpci is currently only used on SPARC. It is in cpukit, so BSP-specific header files are not allowed. Unfortunately this is not the case for libpci. However, it seems the the routines depending on BSP\_PCI\_BIG\_ENDIAN are not used:

```
grep -r 'pci_[ldst]{2}_' . ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE uint16_t
pci_ld_le16(volatile uint16_t *addr) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE
void pci_st_le16(volatile uint16_t *addr, uint16_t val) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE
uint32_t pci_ld_le32(volatile uint32_t *addr) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE
void pci_st_le32(volatile uint32_t *addr, uint32_t val) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE
uint16_t pci_ld_be16(volatile uint16_t *addr) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE
void pci_st_be16(volatile uint16_t *addr, uint16_t val) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE
uint32_t pci_ld_be32(volatile uint32_t *addr) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE
void pci_st_be32(volatile uint32_t *addr, uint32_t val) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE
uint16_t pci_ld_le16(volatile uint16_t *addr) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE
void pci_st_le16(volatile uint16_t *addr, uint16_t val) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE
uint32_t pci_ld_le32(volatile uint32_t *addr) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE
void pci_st_le32(volatile uint32_t *addr, uint32_t val) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE
uint16_t pci_ld_be16(volatile uint16_t *addr) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE
void pci_st_be16(volatile uint16_t *addr, uint16_t val) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE
uint32_t pci_ld_be32(volatile uint32_t *addr) ./cpukit/libpci/pci/access.h:RTEMS_INLINE_ROUTINE
void pci_st_be32(volatile uint32_t *addr, uint32_t val)
```

Is this dead code and can I remove BSP\_PCI\_BIG\_ENDIAN?

Another issue is the use of a BSP-specific interrupt API in `cpukit/libpci/pci/irq.h`.

The missing functions should be added to `<rtems/irq-extension.h>`.

**Author:** Trac Migrate 2018-01-04T06:20:11.000Z

Original author: sebastian.huber

In [changeset:"7190005abb07d1142802edde357cfbe0fe07cc54/rtems" 7190005/rtems]:

```
1 sparc: Move <libcpu/byteorder.h>
2
3 Update #3254.
4 Update #3260.
```

**Author:** Trac Migrate 2018-01-04T06:20:23.000Z

Original author: sebastian.huber

In [changeset:"3b392b6113fd3baae8cd9e1c7790fb051cbca54f/rtems" 3b392b6/rtems]:

```
1 sparc: Remove BSP specifics from <pci/access.h>
2
3 Update #3254.
4 Update #3260.
```

**Author:** Trac Migrate 2018-01-04T06:20:36.000Z

Original author: sebastian.huber

In [changeset:"569fd5097c4853136728f5a43b1706a8c4a253e5/rtems" 569fd50/rtems]:

```
1 sparc: Remove BSP specifics from <pci/irq.h>
2
3 Update #3254.
4 Update #3260.
5 Update #3269.
```

**Author:** Trac Migrate 2018-01-04T06:20:49.000Z

Original author: sebastian.huber

In [changeset:"4e100058cc621f52635525cec2965e6ea7579d7b/rtems" 4e100058/rtems]:

```

1 sparc: Remove <bsp.h> from PCI shell command
2
3 Update #3254.
4 Update #3260.

```

**Author:** Trac Migrate 2018-01-04T06:21:50.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

See also #3269.

4.2.1.597 3191 - RTEMS Tester covoar dies with no arguments.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3191                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                                 |
| <b>Created</b>     | 2017-10-13T16:30:48.000Z                                                                                                      |
| <b>Updated</b>     | 2018-01-02T23:00:41.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool, version::5                                                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3191">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3191</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Running covoar terminate with an unhandled exception with no arguments on the command line:

```

1 $ ./build/tester/covovar/covovar
2 error missing option: target -T
3 Usage: ./build/tester/covovar/covovar [-v] -T TARGET -f FORMAT [-E EXPLANATIONS] -1_
   ↪ EXECUTABLE coverage1 ... coverageN
4 --OR--
5 Usage: ./build/tester/covovar/covovar [-v] -T TARGET -f FORMAT [-E EXPLANATIONS] -e_
   ↪ EXE_EXTENSION -c COVERAGEFILE_EXTENSION EXECUTABLE1 ... EXECUTABLE2
6
7 -v                      - verbose at initialization
8 -T TARGET                - target name
9 -f FORMAT                - coverage file format (RTEMS, QEMU, TSIM or Skyeeye)
10 -E EXPLANATIONS          - name of file with explanations
11 -s SYMBOLS_FILE          - name of file with symbols of interest
12 -1 EXECUTABLE            - name of executable to get symbols from
13 -e EXE_EXTENSION         - extension of the executables to analyze
14 -c COVERAGEFILE_EXTENSION - extension of the coverage files to analyze
15 -g GCNOS_LIST            - name of file with list of *.gcno files

```

(continues on next page)



(continued from previous page)

```

16 -p PROJECT_NAME          - name of the project
17 -C ConfigurationFileName - name of configuration file
18 -O Output_Directory      - name of output directory (default=.
19 libc++abi.dylib: terminating with uncaught exception of type std::__1::basic_
   ↳ string<char, std::__1::char_traits<char>, std::__1::allocator<char> >
20 Abort trap: 6

```

**Author:** Joel Sherrill 2017-11-01T20:43:46.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

**Author:** Trac Migrate 2017-12-05T14:05:02.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"b516a581a3517ae5a0687f1b758e0d84a934afc3/rtems-tools"  
b516a58/rtems-tools]:

```

1 tester/covoar/covoar.cc: Exit using exit() rather than just throwing.
2
3 Closes #3191.

```

**Author:** Trac Migrate 2018-01-02T23:00:41.000Z

In [changeset:"033344235cf8eef8685a9b3141f86bcf91e43607/rtems-tools"  
0333442/rtems-tools]:

```

1 tester/covoar/covoar.cc: Add missing throw keyword
2
3 Why clang caught this and gcc didn't is a mystery.
4
5 Updates #3191.

```

## 4.2.1.598 3266 - cpukit/libpci references BSP headers.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3266                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-12-24T04:03:35.000Z                                                                                                      |
| <b>Updated</b>     | 2018-01-02T06:23:05.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | library, priority::normal, resolution::duplicate, tickettype::defect, version::5                                              |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3266">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3266</a> |
| <b>Merges</b>      | 0                                                                                                                             |

On the no-preinstall branch of <https://git.rtems.org/chrisj/rtems.git/> the build fails with:

```

1 sparc-rtems5-gcc --pipe -DHAVE_CONFIG_H -I. -I/opt/work/chris/rtems/kernel/
↳bsps/beagleboneblack/sparc-rtems5/c/erc32/include -I/opt/work/chris/rtems/
↳kernel/rtems.git/cpukit/include -I/opt/work/chris/rtems/kernel/rtems.git/cpukit/
↳score/cpu/sparc/include -mcpu=cypress -O2 -g -ffunction-sections -fdata-
↳sections -MT pci_access.o -MD -MP -MF $depbase.Tpo -c -o pci_access.o /opt/work/
↳chris/rtems/kernel/rtems.git/c/src/../../cpukit/libpci/pai_access.c &&\
2 mv -f $depbase.Tpo $depbase.Po
3 In file included from /opt/work/chris/rtems/kernel/rtems.git/cpukit/include/pai.
↳h:23:0,
4 from /opt/work/chris/rtems/kernel/rtems.git/c/src/../../cpukit/libpci/pai_access.
↳c:10:
5 /opt/work/chris/rtems/kernel/rtems.git/cpukit/include/pai/access.h:16:10: fatal_
↳error: libcpu/byteorder.h: No such file or directory
6 #include <libcpu/byteorder.h>
7 ^~~~~~

```

This header is found under:

```
{{{ $ find . -name byteorder.h ./bsps/powerpc/include/libcpu/byteorder.h
./bsps/sparc/include/libcpu/byteorder.h ./bsps/i386/include/libcpu/byteorder.h }}}}
```

**Author:** Joel Sherrill 2017-12-24T20:09:09.000Z

Is there anything in the implementations that is BSP, not architecture, specific? They could be moved to cpukit if we have confidence they can be implemented always that way.

Or they can be real methods provided by the bsl

**Author:** Chris Johns 2017-12-26T21:59:42.000Z

Replying to [Joel Sherrill](#):

Is there anything in the implementations that is BSP, not architecture, specific? They could be moved to cpukit if we have confidence they can be implemented always that way. Or they can be real methods provided by the bsl

Sorry I do not know.

**Author:** Trac Migrate 2018-01-02T06:22:44.000Z

This is a duplicate of [#3260](#).

**Author:** Trac Migrate 2018-01-02T06:23:05.000Z

- **Resolution** set to ~"duplicate"
- **Status** changed from *new* to *closed*

#### 4.2.1.599 3242 - Workarounds for UT699, UT700, and GR712RC errata

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3242                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-11-20T12:57:44.000Z                                                                                                      |
| <b>Updated</b>     | 2017-12-19T09:40:32.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::gcc                                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3242">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3242</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

<https://gcc.gnu.org/ml/gcc-patches/2017-11/msg01751.html>

This patch series adds workarounds for the newly discovered errata for UT699, UT700, and GR712RC. The errata and possible workarounds are described in the following documents available at <http://www.gaisler.com/index.php/information/app-tech-notes>:

GRLIB-TN-0010 - LEON3/FT AHB Deadlock After Sequence of Load and Atomic Instructions  
 GRLIB-TN-0011 - LEON3/FT AHB Lock Release during Atomic Operation  
 GRLIB-TN-0012 - GR712RC Incorrect Annulation of Floating-point Operation on Instruction Cache Parity Error  
 GRLIB-TN-0013 - GRFPU Floating-point controller: Missing FDIV/FSQRT Result

Daniel Cederman (4): [SPARC] Errata workaround for GRLIB-TN-0012 [SPARC] Errata workaround for GRLIB-TN-0011 [SPARC] Errata workaround for GRLIB-TN-0010 [SPARC] Errata workaround for GRLIB-TN-0013

- [gcc-sparc-ticket-3242-v2.patch](#)
- [gcc-sparc-ticket-3242.patch](#)

**Author:** Trac Migrate 2017-11-30T08:26:56.000Z

Original author: sebastian.huber

Include also:

[SPARC] Recognize the load when accessing the GOT [SPARC] Prevent -mfix-ut699 from generating b2bst errata sequences

**Author:** Trac Migrate 2017-11-30T08:31:12.000Z

Original author: sebastian.huber

```

1 2017-11-29 Daniel Cederman <cederman@gaisler.com>
2
3 Backport from mainline
4 * config/sparc/sparc.c (sparc_do_work_around_errata): Treat the
5 movsi_pic_gotdata_op instruction as a load for the UT699 errata
6 workaround.
7
8 2017-11-29 Martin Aberg <maberg@gaisler.com>
9
10 Backport from mainline
11 * config/sparc/sparc.md (divdf3_fix): Add NOP and adjust length
12 to prevent b2bst errata sequence.
13 (sqrtdf2_fix): Likewise.
14
15 2017-11-29 Daniel Cederman <cederman@gaisler.com>
16
17 Backport from mainline
18 * config/sparc/sparc.c (fpop_reg_depend_p): New function.
19 (div_sqrt_insn_p): New function.
20 (sparc_do_work_around_errata): Insert NOP instructions to
21 prevent sequences that could trigger the TN-0013 errata for
22 certain LEON3 processors.
23 (pass_work_around_errata::gate): Also test sparc_fix_lost_divsqrt.
24 (sparc_option_override): Set sparc_fix_lost_divsqrt appropriately.
25 * config/sparc/sparc.md (fix_lost_divsqrt): New attribute.
26 (in_branch_delay): Prevent div and sqrt in delay slot if
27 fix_lost_divsqrt.
28 * config/sparc/sparc.opt (sparc_fix_lost_divsqrt): New variable.
29
30 2017-11-29 Daniel Cederman <cederman@gaisler.com>
31
32 Backport from mainline
33 * config/sparc/sparc.c (atomic_insn_p): New function.
34 (sparc_do_work_around_errata): Insert NOP instructions to
35 prevent sequences that could trigger the TN-0010 errata for
36 UT700.

```

(continues on next page)

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```

37 * config/sparc/sync.md (atomic_compare_and_swap_leon3_1): Make
38 instruction referable in atomic_insns_p.
39
40 2017-11-29 Daniel Cederman <cederman@gaisler.com>
41
42 Backport from mainline
43 * config/sparc/sync.md (swapsi): 16-byte align if sparc_fix_gr712rc.
44 (atomic_compare_and_swap_leon3_1): Likewise.
45 (ldstub): Likewise.
46
47 2017-11-29 Daniel Cederman <cederman@gaisler.com>
48
49 Backport from mainline
50 * config/sparc/sparc.c (fpop_insn_p): New function.
51 (sparc_do_work_around_errata): Insert NOP instructions to
52 prevent sequences that could trigger the TN-0012 errata for
53 GR712RC.
54 (pass_work_around_errata::gate): Also test sparc_fix_gr712rc.
55 * config/sparc/sparc.md (fix_gr712rc): New attribute.
56 (in_branch_annul_delay): Prevent floating-point instructions
57 in delay slot of annulled integer branch.

```

**Author:** Trac Migrate 2017-11-30T08:32:21.000Z

Original author: sebastian.huber

- **Attachment** [gcc-sparc-ticket-3242.patch](#) added

**Author:** Trac Migrate 2017-12-01T06:02:08.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"ffbd5e9285a5b854b3e97d59a0fcf9bfe4c07d02/rtems-source-builder" ffbd5e9/rtems-source-builder]:

```

1 5: Add SPARC chip errata workarounds
2
3 Close #3242.

```

**Author:** Trac Migrate 2017-12-19T08:30:47.000Z

Original author: sebastian.huber

Update the patch series to integrate some cleanup and fix an ICE.

```

1 2017-12-19 Daniel Cederman <cederman@gaisler.com>
2
3 Backport from mainline
4 2017-12-19 Daniel Cederman <cederman@gaisler.com>
5
6 * config/sparc/sparc.c (sparc_do_work_around_errata): Make sure
7 the jump is to a label.
8
9 2017-12-06 Eric Botcazou <ebotcazou@adacore.com>
10
11 Revert
12 2017-11-29 Martin Aberg <maberg@gaisler.com>
13
14 * config/sparc/sparc.md (divdf3_fix): Add NOP and adjust length
15 to prevent b2bst errata sequence.
16 (sqrtdf2_fix): Likewise.
17
18 2017-12-04 Eric Botcazou <ebotcazou@adacore.com>
19
20 * config/sparc/sparc.c (sparc_do_work_around_errata): Use mem_ref
21 instead of MEM_P in a couple more places. Fix formatting issues.

```

**Author:** Trac Migrate 2017-12-19T08:36:20.000Z

Original author: sebastian.huber

- **Attachment** [gcc-sparc-ticket-3242-v2.patch](#) added

**Author:** Trac Migrate 2017-12-19T09:40:32.000Z

Original author: sebastian.huber

In [changeset:"f3b1700dfd4d06e9d0cdc212cfc640442694d1d8/rtems-source-builder" f3b1700/rtems-source-builder]:

```

1 5: Update SPARC chip errata workarounds
2
3 Update #3242.

```

## 4.2.1.600 2702 - Remove descriptor objects for POSIX message queues

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2702                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-04-29T07:11:23.000Z                                                                                            |
| <b>Updated</b>     | 2017-12-15T06:24:12.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::defect, version::4.10                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2702">https://gitlab.rtems.org/rtems/rtems/-/issues/2702</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The `mq_open()` function returns a descriptor to a POSIX message queue object identified by a name. This is similar to `sem_open()`. In contrast to the POSIX semaphore the POSIX message queues use a separate object for the descriptor. This extra object is superfluous, since the object identifier can be used directly for this purpose, just like for the semaphores.

**Author:** Trac Migrate 2016-05-02T10:07:53.000Z

Original author: sebastian.huber

In changeset c8982e5f6a4857444676165deab1e08dc91a6847:

posix: Simplify message queues The `mq_open()` function returns a descriptor to a POSIX message queue object identified by a name. This is similar to `sem_open()`. In contrast to the POSIX semaphore the POSIX message queues use a separate object for the descriptor. This extra object is superfluous, since the object identifier can be used directly for this purpose, just like for the semaphores. Update [#2702](#). Update [#2555](#).

**Author:** Trac Migrate 2016-12-19T13:52:36.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[7b0db6a9d58140150134718c34a1b552d4e0d4ae/rtems-docs]

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

**Author:** Trac Migrate 2017-12-15T06:24:12.000Z

Original author: sebastian.huber

In [changeset:"e1563f377de265a4663068167f866eb83d3ffdce/rtems" e1563f37/rtems]:

```
1 posix: Remove unused global variable
2
3 Update #2702.
4 Update #2555.
```

4.2.1.601 3240 - cpukit/libmisc/stackchk/check.c stack addresses formatted incorrectly.

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3240                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2017-11-18T05:32:17.000Z                                                                                            |
| <b>Updated</b>     | 2017-12-06T22:51:35.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | library, priority::normal, resolution::fixed, tickettype::defect, version::5                                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3240">https://gitlab.rtems.org/rtems/rtems/-/issues/3240</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: andreic

The function `Stack_check_Dump_threads_usage` displays the stack high, low, and current pointers incorrectly.

Instead of displaying these pointers in conventional hex format, the values have a proper prefix of 0x, but the pointer value is displayed in decimal.

The incorrect `inttypes.h` formatting define was used.

- [0001-libmisc-stackchk-check.c-correct-formatting-of-stack.patch](#)

**Author:** Trac Migrate 2017-11-18T06:14:29.000Z

Original author: andreic



- **Attachment** [0001-libmisc-stackchk-check.c-correct-formatting-of-stack.patch](#) added

**Author:** Joel Sherrill 2017-12-05T21:17:08.000Z

Original author: andreic

Wasn't a fix for this committed? Is there work left to do? Either close or state actions left. Please

**Author:** Chris Johns 2017-12-06T06:05:34.000Z

Original author: andreic

No, the format of the prints is wrong and this patch fixes it. It needs to be applied and that should close the ticket.

**Author:** Chris Johns 2017-12-06T22:48:31.000Z

Original author: andreic

- **Owner** set to @chrisj
- **Status** changed from *new* to *accepted*

**Author:** Trac Migrate 2017-12-06T22:51:35.000Z

Original author: andreic

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"1737e8f8673916319267163c0a7518ac087cf832/rtems" 1737e8f/rtems]:

```

1 libmisc/stackchk/check.c: correct formatting of stack pointers in Stack_
  ↪ check_Dump_threads_usage
2
3 Pointers were being printed as 0x<decimal> rather than 0x<hex>. I_
  ↪ altered the formatting define used
4 to give the correct formatting.
5 Close #3240

```

## 4.2.1.602 3207 - Supported Architectures Page is out of date

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3207                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-10-25T12:49:10.000Z                                                                                                      |
| <b>Updated</b>     | 2017-12-05T16:51:05.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3207">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3207</a> |
| <b>Merges</b>      | 0                                                                                                                             |

<https://devel.rtems.org/wiki/TBR/UserManual/SupportedCPUs> is out of date. I have the information to update it if that's what we want to do.

I don't know the best way to provide this broad view from 4.6 up on what architectures are supported. The wiki seems OK.

**Author:** Chris Johns 2017-10-25T22:23:34.000Z

Is this a duplicate of [#3206](#)?

The architecture and BSP is closely linked.

**Author:** Joel Sherrill 2017-10-25T22:26:58.000Z

They are related but I tend to think the architecture page is OK to do by hand and the BSP page needs something where you can look at a file per release.

Not 100% sure what the right answer is but the set of BSPs is more fluid than the set of architectures.

And the porting guide could include adding an entry and the release procedure could include adding a column.

**Author:** Chris Johns 2017-10-25T22:36:30.000Z

Replying to [Joel Sherrill](#):

Not 100% sure what the right answer is but the set of BSPs is more fluid than the set of architectures.

Amar's database highlights a complexity hidden in just top level \_architectures\_, take ARM, we support a subset of the available variants and having this listed would be awesome.

And the porting guide could include adding an entry and the release procedure could include adding a column.

Column of?

**Author:** Trac Migrate 2017-10-26T05:39:15.000Z

I would move this information to the RTEMS CPU Architecture Supplement and delete the wiki page. We can add a chapter with obsoleted architectures and just mention the version which removed them.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

**Author:** Joel Sherrill 2017-12-05T16:51:05.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

4.2.1.603 3227 - sb-check fails on Msys2 64-bit

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3227                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-11-10T16:13:10.000Z                                                                                                      |
| <b>Updated</b>     | 2017-12-05T14:31:08.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, resolution::worksforme, ticket-type::defect, version::5                                  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3227">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3227</a> |
| <b>Merges</b>      | 0                                                                                                                             |

There must be a recent change to msys2 which is breaking things. I installed the 64-bit version from <https://msys2.github.io/> per the instructions at <https://docs.rtems.org/branches/master/user/hosts/index.html#microsoft-windows>

```
1 $ ./source-builder/sb-check
2 error: no hosts defaults found; please add
```

After adding some prints, I learned this:

```
1 $ ./source-builder/sb-check
2 posix
3 made it
4 MSYS_NT-10.0
5 error: no hosts defaults found; please add
```

I filled in options.py and windows.py to recognize this as MSYS2. I was then able to run sb-check. But it wasn't happy. Apparently the pacman command in the User's Guide is missing some packages based on newer versions:

```

1 $ ./source-builder/sb-check
2 posix
3 MSYS_NT-10.0
4 RTEMS Source Builder - Check, 5 (8b30eb3f440a modified)
5 error: exe: not found: (__ar) ar
6 error: exe: not found: (__as) as
7 error: exe: not found: (__cc) x86_64-w64-mingw32-gcc
8 error: exe: not found: (__cxx) x86_64-w64-mingw32-g++
9 error: exe: not found: (__ld) ld
10 error: exe: not found: (__nm) nm
11 error: exe: not found: (__objcopy) objcopy
12 error: exe: not found: (__objdump) objdump
13 error: exe: not found: (__ranlib) ranlib
14 Environment is not correctly set up

```

I installed binutils explicitly with pacman and then sb-check is complaining about gcc. I did a find to locate the gcc's installed:

```

1 $ find / -name "*gcc.*"
2 /home/jrs007/.ssh/id_rsa_gcc.pub
3 /mingw64/bin/gcc.exe
4 /mingw64/bin/x86_64-w64-mingw32-gcc.exe
5 /mingw64/lib/gcc/x86_64-w64-mingw32/6.2.0/include/stdint-gcc.h
6 /mingw64/lib/gcc/x86_64-w64-mingw32/6.2.0/libgcc.a
7 /mingw64/share/info/gcc.info.gz
8 /mingw64/share/man/man1/gcc.1.gz
9 /usr/share/vim/vim80/compiler/gcc.vim
10 find: failed to read file names from file system at or below \ |md_0_8216|\ / \_
   ↳ |md_0_8217|\ : No such file or directory
11
12 jrs007@JRS-OAR-Laptop MINGW64 /c/opt/rtems/rsb/source-builder
13 $ /mingw64/bin/x86_64-w64-mingw32-gcc.exe --version
14 x86_64-w64-mingw32-gcc.exe (Rev2, Built by MSYS2 project) 6.2.0
15 Copyright (C) 2016 Free Software Foundation, Inc.
16 This is free software; see the source for copying conditions. There is NO
17 warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

```

- [rsb.diff](#)

---

**Author:** Joel Sherrill 2017-11-10T16:13:54.000Z

---

- Attachment [rsb.diff](#) added

Accounts for name change

---

**Author:** Joel Sherrill 2017-11-10T16:14:37.000Z

---

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-11-12T15:53:38.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d1e6dfcb1e14d2f9d42c79e1137ddca6d8fc67d5/rtems-source-builder" d1e6dfc/rtems-source-builder]:

```
1 5/rtems-all.bset: Add missing aarch64
2
3 closes #3227.
```

**Author:** Joel Sherrill 2017-11-12T15:54:36.000Z

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

Wrong ticket closed

**Author:** Chris Johns 2017-11-12T21:38:18.000Z

I have just updated my MSYS2 and I am not seeing an issue. Also:

```
1 chris@weng MINGW64 /d/opt/rtems/rsb.git/rtems
2 $ ../source-builder/sb-check
3 RTEMS Source Builder - Check, 5 (089327b5dcf9)
4 Environment is ok
5 chris@weng MINGW64 /d/opt/rtems/rsb.git/rtems
6 $ /mingw64/bin/x86_64-w64-mingw32-gcc.exe --version
7 x86_64-w64-mingw32-gcc.exe (Rev1, Built by MSYS2 project) 7.2.0
8 Copyright (C) 2017 Free Software Foundation, Inc.
9 This is free software; see the source for copying conditions. There is
10 ↪NO
    ↪warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR
    ↪PURPOSE.
```

My installed gcc is much newer than yours?

Did you follow this procedure <https://github.com/msys2/msys2/wiki/MSYS2-installation#iii-updating-packages> ?

**Author:** Joel Sherrill 2017-12-05T14:31:08.000Z

- **Resolution** set to ~"worksforme"
- **Status** changed from *reopened* to *closed*

This should have been closed. The issue was that my install needed to be updated after the initial install. Apparently, they don't give you the latest version of anything on an initial install.

Closing.

#### 4.2.1.604 3129 - RTEMS Tools covoar build fails on Windows

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3129                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-09-10T21:21:50.000Z                                                                                            |
| <b>Updated</b>     | 2017-12-05T14:21:44.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::high, resolution::fixed, tickettype::defect, tool, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3129">https://gitlab.rtems.org/rtems/rtems/-/issues/3129</a> |
| <b>Merges</b>      | 0                                                                                                                   |

The following warnings and errors are present so the RSB tools do not finish and install:

```

1 [ 97/150] Compiling linkers/rtems-syms.cpp
2 [ 98/150] Compiling linkers/rtems-rapper.cpp
3 [ 99/150] Compiling linkers/rtems-exeinfo.cpp
4 In file included from ../rtemstoolkit/rld-files.cpp:30:0:
5 ../rtemstoolkit/rld-files.cpp: In destructor 'virtual rld::files::~image::~image()
  ↳ ':
6 ../rtemstoolkit/rld.h:111:75: warning: throw will always call terminate() [-
  ↳ Wterminate]
7 rld::error (_what, std::string (__FILE__) + ":" + to_string (__LINE__))
8 ^
9 ../rtemstoolkit/rld-files.cpp:256:15: note: in expansion of macro 'rld_error_at'
10 throw rld_error_at ("references when destructing image");
11 ^~~~~~
12 ../rtemstoolkit/rld.h:111:75: note: in C++11 destructors default to noexcept
13 rld::error (_what, std::string (__FILE__) + ":" + to_string (__LINE__))
14 ^
15 ../rtemstoolkit/rld-files.cpp:256:15: note: in expansion of macro 'rld_error_at'
16 throw rld_error_at ("references when destructing image");
17 ^~~~~~
18
19 [100/150] Compiling tester/covoar/app_common.cc
20 [101/150] Compiling tester/covoar/CoverageFactory.cc
21 [102/150] Compiling tester/covoar/CoverageMap.cc
22 [103/150] Compiling tester/covoar/CoverageMapBase.cc
23 [104/150] Compiling tester/covoar/CoverageRanges.cc
24 [105/150] Compiling tester/covoar/CoverageReaderBase.cc
25 [106/150] Compiling tester/covoar/CoverageReaderQEMU.cc
26 [107/150] Compiling tester/covoar/CoverageReaderRTEMS.cc

```

(continues on next page)

(continued from previous page)

```

27 [108/150] Compiling tester/covoar/CoverageReaderSkyeye.cc
28 [109/150] Compiling tester/covoar/CoverageReaderTSIM.cc
29 [110/150] Compiling tester/covoar/CoverageWriterBase.cc
30 [111/150] Compiling tester/covoar/CoverageWriterRTEMS.cc
31 [112/150] Compiling tester/covoar/CoverageWriterSkyeye.cc
32 [113/150] Compiling tester/covoar/CoverageWriterTSIM.cc
33 [114/150] Compiling tester/covoar/DesiredSymbols.cc
34 [115/150] Compiling tester/covoar/ExecutableInfo.cc
35 [116/150] Compiling tester/covoar/Explanations.cc
36 [117/150] Compiling tester/covoar/GcovData.cc
37 [118/150] Compiling tester/covoar/GcovFunctionData.cc
38 [119/150] Compiling tester/covoar/ObjdumpProcessor.cc
39 ../tester/covoar/DesiredSymbols.cc: In member function 'void
    ↳ Coverage::DesiredSymbols::determineSourceLines(Coverage::CoverageRanges*,
    ↳ Coverage::ExecutableInfo*)':
40 ../tester/covoar/DesiredSymbols.cc:517:36: error: 'realpath' was not declared in
    ↳ this scope
41 realpath( inputBuffer, rpath );
42 ^
43
44 Waf: Leaving directory `D:/opt/rtems/rtems-tools.git/build'
45 Build failed
46 -> task in 'ccovoar' failed with exit status 1 (run with -v to display more
    ↳ information)

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

**Author:** Joel Sherrill 2017-12-05T14:21:44.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

This must have been fixed since the ticket was filed. It builds now. There are warnings but that’s a different issue.

## 4.2.1.605 3256 - Ada run-time needs support for self-contained POSIX synchronization objects

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3256                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-12-01T10:29:59.000Z                                                                                                      |
| <b>Updated</b>     | 2017-12-05T06:18:26.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::gcc, version::5                                                |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3256">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3256</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Object types are hard coded in gcc/ada/s-osinte-rtems.ads.

- [0001-RTEMS-Ada-Fix-some-POSIX-types.patch](#)
- [v2-0001-RTEMS-Ada-Fix-some-POSIX-types.patch](#)

**Author:** Trac Migrate 2017-12-01T11:04:53.000Z

Original author: sebastian.huber

- **Attachment** [0001-RTEMS-Ada-Fix-some-POSIX-types.patch](#) added

**Author:** Trac Migrate 2017-12-01T13:09:37.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d60799b93688e4ce93985dd5142b3880bebc6e7d/rtems-source-builder" d60799b/rtems-source-builder]:

```

1 5: Ada: Fix some POSIX types
2
3 Close #3256.
```

**Author:** Trac Migrate 2017-12-04T08:41:47.000Z

Original author: sebastian.huber

- **Attachment** [v2-0001-RTEMS-Ada-Fix-some-POSIX-types.patch](#) added

**Author:** Trac Migrate 2017-12-04T14:18:33.000Z



Original author: sebastian.huber

In [changeset:"7034d65872831fdc5221a01ec3c281f95b97483b/rtems-source-builder" 7034d65/rtems-source-builder]:

```
1 5: Ada: Fix more POSIX types
2
3 Update #3256.
```

**Author:** Trac Migrate 2017-12-05T06:18:26.000Z

Original author: sebastian.huber

In [changeset:"fd5471b6b7761a03e87a11808b57dd123ae49e31/rtems" fd5471b/rtems]:

```
1 ada: Check C and POSIX types
2
3 Update #3256.
```

4.2.1.606 3248 - Add BSP\_VERBOSE\_FATAL\_EXTENSION to RTEMS\_BSP\_CLEANUP\_OPTIONS

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3248                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-11-21T11:50:43.000Z                                                                                                      |
| <b>Updated</b>     | 2017-12-02T19:33:54.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::build, ticket-type::enhancement, version::5                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3248">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3248</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Add BSP\_VERBOSE\_FATAL\_EXTENSION to RTEMS\_BSP\_CLEANUP\_OPTIONS to optionally print the RTEMS version, the fatal source and the fatal code in the shared bsp\_fatal\_extension().

**Author:** Trac Migrate 2017-11-22T12:03:12.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"86a80ee1af0fedb3b575ae95db7e80f80d46b533/rtems" 86a80ee1/rtems]:

```

1 bsp: Add BSP_VERBOSE_FATAL_EXTENSION
2
3 Add BSP_VERBOSE_FATAL_EXTENSION to RTEMS_BSP_CLEANUP_OPTIONS to
4 optionally print the RTEMS version, the fatal source and the fatal code
5 in the shared bsp_fatal_extension().
6
7 Close #3248.

```

**Author:** Trac Migrate 2017-12-02T19:33:54.000Z

Original author: sebastian.huber

In [changeset:"57f3969ad2bdc9a3ad45424422b0394d4dd2748a/rtems" 57f3969a/rtems]:

```

1 bsp: Print internal error text
2
3 Update #3248.

```

#### 4.2.1.607 2493 - Remove notepads

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2493                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-12-14T12:42:30.000Z                                                                                                      |
| <b>Updated</b>     | 2017-12-01T14:23:45.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2493">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2493</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Notepads were marked as obsolete in #2265. Next step is to remove them. Documentation should mention that notepads are removed and list the alternatives, e.g. POSIX keys or thread local storage.

- [0001-api-Remove-deprecated-Notepads.patch](#)

**Author:** Trac Migrate 2015-12-15T10:54:46.000Z

Original author: sebastian.huber

- Remove RTEMS\_API\_Control::Notepads
- Remove all rtems\_task\_note\*() functions and now unused dependencies.
- Build with all tests enabled and fix all compile and link time errors.

- Run tests without regressions.
- Remove RTEMS\_tasks\_MP\_Packet::note\*.
- Build with `-enable-multiprocessing`.
- Build with all tests enabled and fix all compile and link time errors.
- Run tests without regressions.
- Update documentation, to be defined.

---

**Author:** Trac Migrate 2015-12-23T21:06:32.000Z

---

Original author: sebastian.huber

- **Attachment** [0001-api-Remove-deprecated-Notepads.patch](#) added

---

**Author:** Trac Migrate 2015-12-23T21:10:03.000Z

---

Original author: sebastian.huber

Notepads were a feature of RTEMS' tasks that simply functioned in the same way as POSIX keys or threaded local storage (TLS). They were introduced well before per task variables, which are also deprecated, and were barely used in favor of their POSIX alternatives.

In addition to their scarce usage, Notepads took up unnecessary memory. For each task: \* 16 32-bit integers were allocated. \* A total of 64 bytes per task per thread.

This is especially critical in low memory and safety-critical applications.

They are also defined as `uint32_t`, and therefore are not guaranteed to hold a pointer.

Lastly, they are not portable solutions for SMP and uniprocessor systems, like POSIX keys and TLS.

I am closing this ticket once the patch is committed.

---

**Author:** Trac Migrate 2015-12-24T23:05:02.000Z

---

Original author: sebastian.huber

- **Owner** set to Joel Sherrill <[joel.sherrill@oarcorp.com](mailto:joel.sherrill@oarcorp.com)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset `c924e8502f6ad340acfae0e55443d0acde45fdf1`:

user/task.t: Add advice on transitioning use of notepads closes [#2493](#).

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-05-29T06:02:19.000Z

Original author: sebastian.huber

In [changeset:"afa5b894b259b6864b1c5f62a6e8d229bf81a329/rtems" afa5b89/rtems]:

```
1 ada: Remove task notepad support
2
3 Update #2493.
```

**Author:** Trac Migrate 2017-10-09T06:05:48.000Z

Original author: sebastian.huber

In [changeset:"d8f7bdc003f560e8b3b002e18a56c18692d737d8/rtems-docs" d8f7bdc/rtems-docs]:

```
1 c-user: Add obsolete configuration options section
2
3 Update #2493.
4 Update #3112.
5 Update #3113.
6 Update #3114.
7 Update #3115.
8 Update #3116.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

**Author:** Trac Migrate 2017-12-01T14:23:45.000Z

Original author: sebastian.huber

In [changeset:"dda8142f275222b147bc91494ebda7f8c8e4059b/rtems" dda8142f/rtems]:

```
1 ada/sp07: Fix uninitialized variable
2
3 Bug was introduced by d5154d0f6a04f3b7ed59d9a09038576fe2640756.
```

(continues on next page)

(continued from previous page)

4  
5 Updates [#2493](#).

## 4.2.1.608 3255 - Warnings on 64-bit targets

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3255                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-11-29T19:02:22.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-30T06:12:12.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:powerpc, priority::normal, resolution::duplicate, tickettype::defect, version::5                                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3255">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3255</a> |
| <b>Merges</b>      | 0                                                                                                                             |

This occurred on the 64 bit PowerPC and SPARC64 targets.

```
log/powerpc-qoriq_e6500_64.log:../../../../rtems/c/src/../../../../cpukit/libmisc/rtems-
fdt/rtems-fdt-shell.c:57:27: warning: cast to pointer from in-
teger of different size [-Wint-to-pointer-cast] log/powerpc-
qoriq_e6500_64.log:../../../../rtems/c/src/../../../../cpukit/libmisc/rtems-fdt/rtems-fdt-
shell.c:64:27: warning: cast to pointer from integer of different size [-Wint-to-pointer-cast]
log/powerpc-qoriq_e6500_64.log:../../../../rtems/c/src/../../../../cpukit/libmisc/rtems-
fdt/rtems-fdt-shell.c:488:11: warning: format '%u' expects argument of type
'unsigned int', but argument 5 has type 'long int' [-Wformat=] log/powerpc-
qoriq_e6500_64.log:../../../../rtems/c/src/../../../../cpukit/libmisc/rtems-fdt/rtems-fdt-
shell.c:536:13: warning: format '%u' expects argument of type 'unsigned int', but argument 2
has type 'long int' [-Wformat=]
```

**Author:** Joel Sherrill 2017-11-29T19:02:35.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-11-30T06:12:12.000Z

- **Resolution** set to ~"duplicate"
- **Status** changed from *assigned* to *closed*

This is a duplicate of [#3156](#).

## 4.2.1.609 2628 - Avoid home-grown condition variable implementation in the Classic Regions

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2628                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-03-07T07:22:11.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-29T07:16:52.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::wontfix, rtems::score, ticket-type::enhancement, version::4.10                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2628">https://gitlab.rtems.org/rtems/rtems/-/issues/2628</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The Classic Region manager enables users to wait until memory is available to satisfy an allocation request. This is done through special purpose code that basically implements a condition variable.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2016-03-07T07:29:10.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

Depends on [#2629](#).

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-05-11T07:31:02.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-05-11T07:42:40.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.0"

|                                                     |
|-----------------------------------------------------|
| <b>Author:</b> Chris Johns 2017-08-14T00:47:54.000Z |
|-----------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"5.0" to %"Indefinite"
- **Version** ~"4.10" deleted

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-29T07:16:52.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %”Indefinite” to %”5.1”
- **Resolution** set to ~”wontfix”
- **Status** changed from *new* to *closed*

The region can be configured to let threads wait in FIFO or priority order. The self-contained condition variables do not support this. Keep this special case implementation as is.

#### 4.2.1.610 2676 - Obsolete clock\_get() directive

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2676                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-03-22T18:32:30.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-24T12:52:03.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, version::5                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2676">https://gitlab.rtems.org/rtems/rtems/-/issues/2676</a> |
| <b>Merges</b>      | 0                                                                                                                   |

This is deprecated on the 4.11 branch and its use has been isolated in the source tree.

- Remove clock\_get()
- Should allow deletion of rtems\_clock\_get\_options

```
$ grep -rl "clock_get(" . ./doc/user/clock.t ./testsuites/tmtests/tmoverhd/testtask.c
./testsuites/tmtests/tmoverhd/dumrtems.h ./testsuites/sptests/spclockget/init.c ./test-
suites/sptests/spclockget/spclockget.doc ./cpukit/rtems/include/rtems/rtems/clock.h
./cpukit/rtems/src/clockget.c
```

**Author:** Trac Migrate 2016-04-14T21:53:42.000Z

- **Owner** set to Joel Sherrill <[joel@rtems.org](mailto:joel@rtems.org)>
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In changeset e65c45c4b6cf6dfb485bef48385e39969de8b361:

Obsolete rtems\_clock\_get() directive. This service was marked as deprecated long prior to the 4.11 release series and is now being removed. closes [#2676](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

**Author:** Trac Migrate 2017-11-24T12:52:03.000Z

In [changeset:”83ad1c564025124ddc7d298fc6ac56fc24994498/rtems”  
83ad1c5/rtems]:

```
1 ada/sp04: Fix clock get
2
3 Update #2676.
```

#### 4.2.1.611 3115 - POSIX: Make pthread\_rwlock\_t self-contained

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3115                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-08-24T09:44:35.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-22T12:52:07.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3115">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3115</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Change the POSIX read-write lock into a self-contained object using <sys/lock.h>, e.g.

```
1 typedef struct {
2 struct _Thread_queue_Queue _queue;
3 unsigned int _flags;
4 unsigned int _readers;
5 } pthread_rwlock_t;
```

**Author:** Trac Migrate 2017-09-18T05:07:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %”Indefinite” to %”4.12.0”
- **Status** changed from *assigned* to *accepted*



**Author:** Trac Migrate 2017-10-05T12:34:58.000Z

Original author: sebastian.huber

In [changeset:"76d9db31feb7835c66f926d280ea717b7933e152/rtems-source-builder" 76d9db3/rtems-source-builder]:

```

1 4.12: Update to Newlib 2.5.0.20170922
2
3 The time_t is now a 64-bit signed integer.
4
5 This update includes a patch to introduce the self-contained POSIX
6 synchronization objects.
7
8 Update #2514.
9 Update #3111.
10 Update #3112.
11 Update #3113.
12 Update #3114.
13 Update #3115.
14 Update #3116.
```

**Author:** Trac Migrate 2017-10-05T12:35:53.000Z

Original author: sebastian.huber

In [changeset:"e46a075d35fa821b9d5f841032149d74e828be2b/rtems" e46a075/rtems]:

```

1 Enforce compatible Newlib version
2
3 This Newlib check ensures that we have a 64-bit time_t and
4 self-contained POSIX synchronization objects.
5
6 Update #2514.
7 Update #3111.
8 Update #3112.
9 Update #3113.
10 Update #3114.
11 Update #3115.
12 Update #3116.
```

**Author:** Trac Migrate 2017-10-05T12:36:43.000Z

Original author: sebastian.huber

In [changeset:"89fc9345dea5c675f8d93546fa3c723918d3279a/rtems" 89fc9345/rtems]:

```
1 posix: Implement self-contained POSIX rwlocks
2
3 POSIX rwlocks are now available in all configurations and no longer
4 depend on --enable-posix.
5
6 Update #2514.
7 Update #3115.
```

**Author:** Trac Migrate 2017-10-09T06:05:48.000Z

Original author: sebastian.huber

In [changeset:"d8f7bdc003f560e8b3b002e18a56c18692d737d8/rtems-docs"  
d8f7bdc/rtems-docs]:

```
1 c-user: Add obsolete configuration options section
2
3 Update #2493.
4 Update #3112.
5 Update #3113.
6 Update #3114.
7 Update #3115.
8 Update #3116.
```

**Author:** Trac Migrate 2017-10-12T05:16:16.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"9c0cefbfa5eb426ff26954066b5d1f786754a538/rtems"  
9c0cefb/rtems]:

```
1 confdefs: Add warnings for obsolete options
2
3 Update #2674.
4 Close #3112.
5 Close #3113.
6 Close #3114.
7 Close #3115.
8 Close #3116.
```

**Author:** Trac Migrate 2017-10-18T06:53:08.000Z

Original author: sebastian.huber

In [changeset:"6087f33e3145a0164bb0f0b3f375802d14169d4c/rtems"  
6087f33e/rtems]:

```

1 tmtests/tmfine01: Add test cases
2
3 Update #2674.
4 Update #3112.
5 Update #3113.
6 Update #3114.
7 Update #3115.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

**Author:** Trac Migrate 2017-11-22T12:52:07.000Z

Original author: sebastian.huber

In [changeset:"d1a824fd18a82da61edffce78bb9e8f943c96bd7/rtems-docs"  
d1a824f/rtems-docs]:

```

1 c-user: Remove RTEMS_SYSINIT_POSIX_RWLOCK
2
3 Update #3115.

```

#### 4.2.1.612 3114 - POSIX: Make pthread\_barrier\_t self-contained

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3114                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-08-24T09:41:44.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-22T12:51:59.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3114">https://gitlab.rtems.org/rtems/rtems/-/issues/3114</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Change the POSIX barrier into a self-contained object using <sys/lock.h>, e.g.

```

1 typedef struct {
2 struct _Thread_queue_Queue _queue;
3 unsigned int _flags;

```

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```

4 unsigned int          _count;
5 } pthread_barrier_t;

```

**Author:** Trac Migrate 2017-09-18T05:07:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"4.12.0"
- **Status** changed from *assigned* to *accepted*

**Author:** Trac Migrate 2017-10-05T12:34:58.000Z

Original author: sebastian.huber

In [changeset:"76d9db31feb7835c66f926d280ea717b7933e152/rtems-source-builder" 76d9db3/rtems-source-builder]:

```

1 4.12: Update to Newlib 2.5.0.20170922
2
3 The time_t is now a 64-bit signed integer.
4
5 This update includes a patch to introduce the self-contained POSIX
6 synchronization objects.
7
8 Update #2514.
9 Update #3111.
10 Update #3112.
11 Update #3113.
12 Update #3114.
13 Update #3115.
14 Update #3116.

```

**Author:** Trac Migrate 2017-10-05T12:35:53.000Z

Original author: sebastian.huber

In [changeset:"e46a075d35fa821b9d5f841032149d74e828be2b/rtems" e46a075/rtems]:

```

1 Enforce compatible Newlib version
2
3 This Newlib check ensures that we have a 64-bit time_t and
4 self-contained POSIX synchronization objects.
5
6 Update #2514.
7 Update #3111.
8 Update #3112.

```

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```

9 Update #3113.
10 Update #3114.
11 Update #3115.
12 Update #3116.

```

**Author:** Trac Migrate 2017-10-05T12:36:31.000Z

Original author: sebastian.huber

In [changeset:"e67929c4c0025ef46053523be4c8736dd178cbec/rtems" e67929c/rtems]:

```

1 posix: Implement self-contained POSIX barriers
2
3 POSIX barriers are now available in all configurations and no longer
4 depend on --enable-posix.
5
6 Update #2514.
7 Update #3114.

```

**Author:** Trac Migrate 2017-10-09T06:05:48.000Z

Original author: sebastian.huber

In [changeset:"d8f7bdc003f560e8b3b002e18a56c18692d737d8/rtems-docs" d8f7bdc/rtems-docs]:

```

1 c-user: Add obsolete configuration options section
2
3 Update #2493.
4 Update #3112.
5 Update #3113.
6 Update #3114.
7 Update #3115.
8 Update #3116.

```

**Author:** Trac Migrate 2017-10-12T05:16:16.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"9c0cefbfa5eb426ff26954066b5d1f786754a538/rtems" 9c0cefb/rtems]:

```

1 confdefs: Add warnings for obsolete options
2
3 Update #2674.
4 Close #3112.
5 Close #3113.
6 Close #3114.
7 Close #3115.
8 Close #3116.

```

**Author:** Trac Migrate 2017-10-18T06:53:08.000Z

Original author: sebastian.huber

In [changeset:"6087f33e3145a0164bb0f0b3f375802d14169d4c/rtems" 6087f33e/rtems]:

```

1 tmtests/tmfine01: Add test cases
2
3 Update #2674.
4 Update #3112.
5 Update #3113.
6 Update #3114.
7 Update #3115.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

**Author:** Trac Migrate 2017-11-22T12:51:59.000Z

Original author: sebastian.huber

In [changeset:"6c1bf7e9337c16bfc7e71db6715fe2a1db24b2a7/rtems-docs" 6c1bf7e/rtems-docs]:

```

1 c-user: Remove RTEMS_SYSINIT_POSIX_BARRIER
2
3 Update #3114.

```

## 4.2.1.613 3112 - POSIX: Make pthread\_mutex\_t self-contained

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3112                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-08-24T09:33:35.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-22T12:51:51.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3112">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3112</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Change the POSIX mutex into a self-contained object using <sys/lock.h>, e.g.

```

1 typedef struct {
2 struct _Mutex_recursive_Control _mutex;
3 unsigned int _flags;
4 struct _Scheduler_Control *_scheduler;
5 __uint64_t _priority_ceiling;
6 } pthread_mutex_t;

```

**Author:** Trac Migrate 2017-09-18T05:07:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"4.12.0"
- **Status** changed from *assigned* to *accepted*

**Author:** Trac Migrate 2017-09-27T10:11:48.000Z

Original author: sebastian.huber

In [changeset:"e460cd00fddc586908192fa8f46b7e5bfe6bd5ce/rtems" e460cd00/rtems]:

```

1 score: Rename to _Scheduler_Control
2
3 Rename struct Scheduler_Control to _Scheduler_Control to allow its use
4 in standard header files, e.g. <pthread.h>.
5
6 Update #3112.

```

**Author:** Trac Migrate 2017-09-27T12:57:42.000Z

Original author: sebastian.huber

In [changeset:"e2fe881a87331e7e20dab95126a8860e42cdddf0/rtems" e2fe881a/rtems]:

```

1 score: Simplify red-black tree debug support
2
3 Make the RBTNode layout independent of RTEMS_DEBUG (and all other
4 build configuration options). This allows the use of this structure in
5 Newlib.
6
7 Update #3112.
```

**Author:** Trac Migrate 2017-10-05T12:34:58.000Z

Original author: sebastian.huber

In [changeset:"76d9db31feb7835c66f926d280ea717b7933e152/rtems-source-builder" 76d9db3/rtems-source-builder]:

```

1 4.12: Update to Newlib 2.5.0.20170922
2
3 The time_t is now a 64-bit signed integer.
4
5 This update includes a patch to introduce the self-contained POSIX
6 synchronization objects.
7
8 Update #2514.
9 Update #3111.
10 Update #3112.
11 Update #3113.
12 Update #3114.
13 Update #3115.
14 Update #3116.
```

**Author:** Trac Migrate 2017-10-05T12:35:53.000Z

Original author: sebastian.huber

In [changeset:"e46a075d35fa821b9d5f841032149d74e828be2b/rtems" e46a075/rtems]:

```

1 Enforce compatible Newlib version
2
3 This Newlib check ensures that we have a 64-bit time_t and
4 self-contained POSIX synchronization objects.
5
6 Update #2514.
7 Update #3111.
8 Update #3112.
```

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```

9 Update #3113.
10 Update #3114.
11 Update #3115.
12 Update #3116.

```

**Author:** Trac Migrate 2017-10-05T12:37:09.000Z

Original author: sebastian.huber

In [changeset:"de59c065c57cb8526662ee6da28a57ad16fdde66/rtems" de59c065/rtems]:

```

1 posix: Implement self-contained POSIX mutex
2
3 POSIX mutexes are now available in all configurations and no longer
4 depend on --enable-posix.
5
6 Update #2514.
7 Update #3112.

```

**Author:** Trac Migrate 2017-10-09T06:05:48.000Z

Original author: sebastian.huber

In [changeset:"d8f7bdc003f560e8b3b002e18a56c18692d737d8/rtems-docs" d8f7bdc/rtems-docs]:

```

1 c-user: Add obsolete configuration options section
2
3 Update #2493.
4 Update #3112.
5 Update #3113.
6 Update #3114.
7 Update #3115.
8 Update #3116.

```

**Author:** Trac Migrate 2017-10-12T05:16:16.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"9c0cefbfa5eb426ff26954066b5d1f786754a538/rtems" 9c0cefb/rtems]:

```
1 confdefs: Add warnings for obsolete options
2
3 Update #2674.
4 Close #3112.
5 Close #3113.
6 Close #3114.
7 Close #3115.
8 Close #3116.
```

**Author:** Trac Migrate 2017-10-18T06:53:08.000Z

Original author: sebastian.huber

In [changeset:"6087f33e3145a0164bb0f0b3f375802d14169d4c/rtems" 6087f33e/rtems]:

```
1 tmtests/tmfine01: Add test cases
2
3 Update #2674.
4 Update #3112.
5 Update #3113.
6 Update #3114.
7 Update #3115.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

**Author:** Trac Migrate 2017-11-22T12:51:51.000Z

Original author: sebastian.huber

In [changeset:"7188bd50464514897e0d4dd3aa3b1036bf454b29/rtems-docs" 7188bd5/rtems-docs]:

```
1 c-user: Remove RTEMS_SYSINIT_POSIX_MUTEX
2
3 Update #3112.
```

## 4.2.1.614 3113 - POSIX: Make pthread\_cond\_t self-contained

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3113                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-08-24T09:38:11.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-22T12:51:42.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3113">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3113</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Change the POSIX condition variable into a self-contained object using <sys/lock.h>, e.g.

```

1 typedef struct {
2 struct _Condition_Control  _condition;
3 pthread_mutex_t           *_mutex;
4 clockid_t                 _clock;
5 } pthread_cond_t;

```

**Author:** Trac Migrate 2017-09-12T06:12:16.000Z

Original author: sebastian.huber

In [changeset:"62c912e15581e8d2dee9300b99e0532614f5c7e5/rtems" 62c912e/rtems]:

```

1 posix: Use mutex object itself for condvar
2
3 We should only use the address used to initialize the mutex object
4 according to POSIX, "2.9.9 Synchronization Object Copies and Alternative
5 Mappings".
6
7 http://pubs.opengroup.org/onlinepubs/9699919799/functions/V2_chap02.html
8 ↪#tag_15_09_09
9 Update #3113.

```

**Author:** Trac Migrate 2017-09-18T05:07:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"4.12.0"
- **Status** changed from *assigned* to *accepted*

**Author:** Trac Migrate 2017-10-05T12:34:58.000Z

Original author: sebastian.huber

In [changeset:"76d9db31feb7835c66f926d280ea717b7933e152/rtems-source-builder" 76d9db3/rtems-source-builder]:

```
1 4.12: Update to Newlib 2.5.0.20170922
2
3 The time_t is now a 64-bit signed integer.
4
5 This update includes a patch to introduce the self-contained POSIX
6 synchronization objects.
7
8 Update #2514.
9 Update #3111.
10 Update #3112.
11 Update #3113.
12 Update #3114.
13 Update #3115.
14 Update #3116.
```

**Author:** Trac Migrate 2017-10-05T12:35:53.000Z

Original author: sebastian.huber

In [changeset:"e46a075d35fa821b9d5f841032149d74e828be2b/rtems" e46a075/rtems]:

```
1 Enforce compatible Newlib version
2
3 This Newlib check ensures that we have a 64-bit time_t and
4 self-contained POSIX synchronization objects.
5
6 Update #2514.
7 Update #3111.
8 Update #3112.
9 Update #3113.
10 Update #3114.
11 Update #3115.
12 Update #3116.
```

**Author:** Trac Migrate 2017-10-05T12:36:56.000Z

Original author: sebastian.huber

In [changeset:"5222488573e3ba8c2e3cfe29f878a73a3a81694/rtems" 5222488/rtems]:

```

1 posix: Implement self-contained POSIX condvar
2
3 POSIX condition variables are now available in all configurations and no
4 longer depend on --enable-posix.
5
6 Update #2514.
7 Update #3113.

```

**Author:** Trac Migrate 2017-10-09T06:05:48.000Z

Original author: sebastian.huber

In [changeset:"d8f7bdc003f560e8b3b002e18a56c18692d737d8/rtems-docs"  
d8f7bdc/rtems-docs]:

```

1 c-user: Add obsolete configuration options section
2
3 Update #2493.
4 Update #3112.
5 Update #3113.
6 Update #3114.
7 Update #3115.
8 Update #3116.

```

**Author:** Trac Migrate 2017-10-12T05:16:16.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"9c0cefbfa5eb426ff26954066b5d1f786754a538/rtems"  
9c0cefb/rtems]:

```

1 confdefs: Add warnings for obsolete options
2
3 Update #2674.
4 Close #3112.
5 Close #3113.
6 Close #3114.
7 Close #3115.
8 Close #3116.

```

**Author:** Trac Migrate 2017-10-18T06:53:08.000Z

Original author: sebastian.huber

In [changeset:"6087f33e3145a0164bb0f0b3f375802d14169d4c/rtems"  
6087f33e/rtems]:

```

1 tmtests/tmfine01: Add test cases
2
3 Update #2674.
4 Update #3112.
5 Update #3113.
6 Update #3114.
7 Update #3115.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

**Author:** Trac Migrate 2017-11-22T12:51:42.000Z

Original author: sebastian.huber

In [changeset:”5680ec5c6d32ae2dd7d7a2cf3a11b2c3c196606e/rtems-docs”  
5680ec5/rtems-docs]:

```

1 c-user: RTEMS_SYSINIT_POSIX_CONDITION_VARIABLE
2
3 Update #3113.

```

#### 4.2.1.615 3247 - Remove BSP-specific defaults for RTEMS\_BSP\_CLEANUP\_OPTIONS()

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3247                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-11-21T11:44:27.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-22T12:44:40.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::build, ticket-type::enhancement, version::5                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3247">https://gitlab.rtems.org/rtems/rtems/-/issues/3247</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Remove BSP-specific defaults for RTEMS\_BSP\_CLEANUP\_OPTIONS() to simplify the BSP configuration and documentation. Change default to:

BSP\_PRESS\_KEY\_FOR\_RESET=0

BSP\_RESET\_BOARD\_AT\_EXIT=1

BSP\_PRINT\_EXCEPTION\_CONTEXT=1

**Author:** Trac Migrate 2017-11-22T12:44:40.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

[3dd381f0431b761965f573381ff90a8d42a8bd79/rtems]

#### 4.2.1.616 3246 - Remove \_BSP\_Fatal\_error()

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3246                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-11-21T10:49:07.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-22T12:02:46.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:powerpc, priority::normal, resolution::fixed, ticket-type::enhancement, version::5                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3246">https://gitlab.rtems.org/rtems/rtems/-/issues/3246</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

BSPs can use the `bsp_fatal_extension()` to provide BSP-specific fatal error handling. There is no need for a `_BSP_Fatal_error()`.

**Author:** Trac Migrate 2017-11-22T12:02:46.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"07d96453a98c9df64be87eaf1f9023ba05e90297/rtems" 07d96453/rtems]:

```

1 powerpc: Remove _BSP_Fatal_error()
2
3 BSPs can use the bsp_fatal_extension() to provide BSP-specific fatal
4 error handling. There is no need for a _BSP_Fatal_error().
5
6 Close #3246.
```

## 4.2.1.617 3245 - Replace BSP\_panic() with rtems\_panic()

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3245                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-11-21T10:36:31.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-22T12:02:32.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:powerpc, priority::normal, resolution::fixed, ticket-type::enhancement, version::5                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3245">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3245</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Due to a new rtems\_panic() implementation, it is possible to replace the PowerPC-specific BSP\_panic() with rtems\_panic(). Remove BSP\_panic() implementations.

**Author:** Trac Migrate 2017-11-22T12:02:32.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1c193a26d227a42a1ea76564950488f48189dbde/rtems" 1c193a2/rtems]:

```

1 powerpc: Replace BSP_panic() with rtems_panic()
2
3 Due to a new rtems_panic() implementation, it is possible to replace the
4 PowerPC-specific BSP_panic() with rtems_panic(). Remove BSP_panic()
5 implementations.
6
7 Close #3245.
```



## 4.2.1.618 3249 - imx7 does not link getentropy01 test on master

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3249                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-11-21T18:38:50.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-22T12:01:45.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::5                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3249">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3249</a> |
| <b>Merges</b>      | 0                                                                                                                             |

```
arm-rtems5-gcc -B../..../imx7/lib/ -specs bsp_specs -qrtems -march=armv7-
a -mthumb -mfpu=neon -mfloat-abi=hard -mtune=cortex-a7 -O2 -g -ffunction-
sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration
-Wstrict-prototypes -Wnested-externs -Wl,-gc-sections -march=armv7-a -
mthumb -mfpu=neon -mfloat-abi=hard -mtune=cortex-a7 -Wl,-wrap=printf -
Wl,-wrap=puts -Wl,-wrap=putchar -o getentropy01.exe init.o init.o: In function
`test_getentropy': /home/joel/rtems-work/rtems-testing/rtems/build-arm-imx7-rtems/arm-
rtems5/c/imx7/testsuites/libtests/getentropy01/../../../../rtems/c/src/../../../../testsuites/libtests/getentrop
undefined reference to `getentropy' /home/joel/rtems-work/rtems-testing/rtems/build-arm-
imx7-rtems/arm-rtems5/c/imx7/testsuites/libtests/getentropy01/../../../../rtems/c/src/../../../../testsuites,
undefined reference to `getentropy'
```

**Author:** Joel Sherrill 2017-11-21T18:39:24.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-11-22T12:01:45.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"a8bf9a3f7a191d03733b7759501081265f051fe0/rtems" a8bf9a3/rtems]:

```
1 bsp: Add default getentropy() implementation
2
3 Update #3239.
4 Close #3249.
```

## 4.2.1.619 3239 - Add getentropy() implementation provided by each BSP

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3239                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-11-17T06:26:22.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-22T12:01:45.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | device, priority::normal, resolution::fixed, tickettype::enhancement, version::5                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3239">https://gitlab.rtems.org/rtems/rtems/-/issues/3239</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The getentropy() system call was introduced by OpenBSD and is now also available on glibc 2.25 and later. It is used for example by arc4random\_buf(). Which in turn is used by various cryptographic functions.

**Author:** Trac Migrate 2017-11-17T06:28:22.000Z

Original author: sebastian.huber

In [changeset:"ddc339c51fa436e91eba083029bec3849997899e/rtems" ddc339c/rtems]:

```

1 cpukit: Add _arc4random_getentropy_fail.
2
3 Add a default implementation of _arc4random_getentropy_fail with an
4 internal error.
5
6 Update #3239.
```

**Author:** Trac Migrate 2017-11-17T06:28:34.000Z

Original author: sebastian.huber

In [changeset:"ca4895cb9cbaa48f16e63fff8b1d12a32d840026/rtems" ca4895c/rtems]:

```

1 getentropy: Add cpu counter based implementation.
2
3 Update #3239.
```

**Author:** Trac Migrate 2017-11-17T06:28:47.000Z

Original author: sebastian.huber

In [changeset:"1358d4c8246e1601832e769e43dc5bf048e4c1ff/rtems" 1358d4c/rtems]:

```
1 getentropy: Add test.
2
3 Update #3239.
```

**Author:** Trac Migrate 2017-11-17T06:29:01.000Z

Original author: sebastian.huber

In [changeset:"a9de9a7b95b2e775d7a693782f041abb2b9caa75/rtems" a9de9a7/rtems]:

```
1 bsp/atsam: Add getentropy().
2
3 Update #3239.
```

**Author:** Trac Migrate 2017-11-17T06:48:05.000Z

Original author: sebastian.huber

In [changeset:"d0b961ac3492533c70ba886470c2b5b09bbeaf39/rtems-docs" d0b961a/rtems-docs]:

```
1 bsp-howto: Add getentropy.
2
3 Update #3239.
```

**Author:** Trac Migrate 2017-11-17T06:58:41.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"baf98240a47f4e32da85ac8160c35fe03bf60576/rtems-docs" baf9824/rtems-docs]:

```
1 Document INTERNAL_ERROR_ARC4RANDOM_GETENTROPY_FAIL
2
3 Close #3239.
```

**Author:** Trac Migrate 2017-11-20T07:09:41.000Z

Original author: sebastian.huber

In [changeset:"70f23e475b23af25e2035e2b5cfe1f5a8a7ea9f9/rtems-docs" 70f23e4/rtems-docs]:

```

1 Clarify INTERNAL_ERROR_ARC4RANDOM_GETENTROPY_FAIL
2
3 Update #3239.

```

**Author:** Trac Migrate 2017-11-20T07:50:50.000Z

Original author: sebastian.huber

In [changeset:"3d374d90f8f2814a7ae6549d4c0fb83d4cc75511/rtems" 3d374d9/rtems]:

```

1 bsps: Use a state in default getentropy()
2
3 Use the boot time to initialize the state. Use the state, the current
4 CPU counter and a very simple pseudo random number generator for
5 getentropy(). At least, this enables to pass the test "GETENTROPY 1" on
6 ERC32.
7
8 Update #3239.

```

**Author:** Trac Migrate 2017-11-22T12:01:45.000Z

Original author: sebastian.huber

In [changeset:"a8bf9a3f7a191d03733b7759501081265f051fe0/rtems" a8bf9a3/rtems]:

```

1 bsps: Add default getentropy() implementation
2
3 Update #3239.
4 Close #3249.

```

#### 4.2.1.620 2355 - SPARC: Several shared drivers are not SMP ready

|                    |                                                                                                                                   |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2355                                                                                                                              |
| <b>State</b>       | closed                                                                                                                            |
| <b>Type</b>        | ISSUE                                                                                                                             |
| <b>Author</b>      | Trac Migrate                                                                                                                      |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                      |
| <b>Created</b>     | 2015-05-28T12:18:40.000Z                                                                                                          |
| <b>Updated</b>     | 2017-11-21T09:29:21.000Z                                                                                                          |
| <b>Milestone</b>   | 5.1                                                                                                                               |
| <b>Labels</b>      | arch:sparc, priority::highest, priority::normal, resolution::fixed, ticket-type::defect, version::4.11, version::4.12, version::5 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2355">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2355</a>     |
| <b>Merges</b>      | 0                                                                                                                                 |

Original author: sebastian.huber

Several drivers in `c/src/lib/libbsp/sparc/shared/` use `interrupt disable/enable` for low-level mutual exclusion. This is not enough on SMP configurations.

---

**Author:** Trac Migrate 2017-01-25T13:42:57.000Z

---

Original author: sebastian.huber

- **Milestone** changed from `%”4.11”` to `%”4.12”`

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from `%”4.12”` to `%”4.12.0”`

---

**Author:** Trac Migrate 2017-05-12T09:57:36.000Z

---

Original author: sebastian.huber

With the most recent patches send to the `devel-list` most drivers have been fixed and now supports SMP.

Still there are a couple which has not been addressed, the focus has been on the device drivers that are present/used on multi-core LEON devices such as dual-core GR712RC and quad-core GR740.

The remaining drivers that generate warnings about this are:

- `shared/spw/grspw.c` - old driver, better functionality and SMP support in `shared/spw/grspw_pkt.c`. I’m thinking we should disable this driver for SMP builds.
- `shared/1553/gr1553rt.c` - Used by GR740. Was considered of lower priority but will be fixed in June.

Related to this topic also important:

- `sparc/shared/spw/grspw_router.c` - Central for GR740. Build does not produce warnings since HW does not generate interrupts. A patch is pending on this one including SMP support and more importantly API updates for the GR740.

Personally I think the current LEON3 BSP state regarding topic this should not be a blocker for a 4.12 branch?

---

**Author:** Trac Migrate 2017-05-12T10:11:02.000Z

---

Original author: sebastian.huber

Do you want to release RTEMS 4.12 with the message that most drivers work on your SMP chips or all?

---

**Author:** Trac Migrate 2017-05-12T10:22:16.000Z

---

Original author: sebastian.huber

I assumed that there will be some time after the branching until 4.12 is released? Maybe this is wrong? The two first should be quick to fix. The SpW router turned out to be more work than we initially expected.

---

**Author:** Chris Johns 2017-05-15T22:35:19.000Z

---

Original author: sebastian.huber

Replying to [Daniel Hellstrom](#):

I assumed that there will be some time after the branching until 4.12 is released? Maybe this is wrong? The two first should be quick to fix. The SpW router turned out to be more work than we initially expected.

I would prefer we get things sorted and stable on master, make the branch and then release. The overheads for making a release are coming down each time it happens so a dot point release to add a fix for a driver is fine with me.

---

**Author:** Chris Johns 2017-08-14T00:07:22.000Z

---

Original author: sebastian.huber

- **Priority** changed from ~"normal" to ~"highest"
- **Version** changed from ~"4.11" to ~"4.12"

What is the status of these drivers?

---

**Author:** Chris Johns 2017-10-11T22:41:03.000Z

---

Original author: sebastian.huber

This ticket is mark as a blocker. Please update with an estimate of when this will be completed.

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

---

**Author:** Trac Migrate 2017-11-14T09:58:39.000Z

---

Original author: sebastian.huber

Sorry for my late reply.

It seems that “Update #2355” in the commit message does not work when I push. But the text says “remote: 3: update trac” as if it working when pushing.

The following patches affect the status of this ticket since August:

```
* 1ccce05337be6e81f823039932a8a10d2b07c2d8
* 6b339b5af65b243ea32edce29dc5642440ba68d5
59af2cc58e37481f176cbea96e6a59e70a9f5598 (pushed today)
```

Status (libbsp/sparc/shared/): \* [FIXED] spw/grspw.c - disabled on SMP builds via Makefiles. Only safe in UP configuration. \* [FIXED] spw/grspw\_router.c - SMP protection via spin-locks & semaphore. \* [TODO] 1533/gr1553rt.c - work not started yet. Is not SMP safe currently.

With the router patch it is only the GR1553B in RT mode that is not SMP safe on the GR740. We could disable the RT driver on SMP for now to avoid the warnings until SMP is fixed? My initial plan was to have this driver SMP safe a long time ago. I don't think the remaining is a blocking issue and I suggest to change this ticket from being a blocker into major?

**Author:** Trac Migrate 2017-11-14T10:08:52.000Z

Original author: sebastian.huber

The Trac update via commits doesn't work if you push more than one commit at once.

How much work is it to fix the GR1553B driver?

**Author:** Trac Migrate 2017-11-20T14:18:52.000Z

Original author: sebastian.huber

Thanks for information, I will test it with this RT patch.

Thats right, its not much work but its the testing that concerns me. I have posted a patch which fixes the RT driver with SMP support and closes this ticket: <https://lists.rtems.org/pipermail/devel/2017-November/019556.html>

**Author:** Trac Migrate 2017-11-21T09:29:21.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In [changeset:”4d7e4bb2139439e676a9131cad3b1a9aa04037ae/rtems”4d7e4bb/rtems]:

```
1 leon, gr1553rt: adding SMP protection
2
```

(continues on next page)

(continued from previous page)

```

3 Add device spin-lock around internal data structures. Since the driver
4 provides a low-level C API accessing the descriptors the application
5 still needs to implement part of the SMP synchronization needed between
6 Interrupt handler and tasks.
7
8 Close #2355.

```

## 4.2.1.621 3237 - Fix priority ceiling updates

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3237                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-11-16T14:25:37.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-16T14:29:23.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3237">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3237</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

We must not clear the priority updates in `_Thread_queue_Extract_locked()` since this function is used by the priority ceiling surrender operations after the ceiling priority handover from the previous owner to the new owner. This is especially important in SMP configurations.

Move the `_Thread_queue_Context_clear_priority_updates()` invocation to the callers.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-16T14:29:23.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"ec771f253182569dd5e046f39785a22c6c6f8e44/rtems"ec771f2/rtems]:

```

1 score: Fix priority ceiling updates
2
3 We must not clear the priority updates in _Thread_queue_Extract_locked()
4 since this function is used by the priority ceiling surrender operations
5 after the ceiling priority handover from the previous owner to the new
6 owner. This is especially important in SMP configurations.
7
8 Move the _Thread_queue_Context_clear_priority_updates() invocation to
9 the callers.

```

(continues on next page)



(continued from previous page)

```

10
11 Close #3237.

```

4.2.1.622 3236 - Fix thread queue owner priority update in `_Thread_queue_Flush_critical()`

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3236                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-11-16T13:37:57.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-16T13:41:00.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3236">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3236</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The thread queue extract operations performed by the `_Thread_queue_Flush_critical()` may result in a priority change of the thread queue owner. Carry out the scheduler priority update operation. This is especially important in SMP configurations.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-16T13:41:00.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"9c30c31e24069555a9e3e9ccae0d8af04fba35f5/rtems" 9c30c31e/rtems]:

```

1 score: Fix _Thread_queue_Flush_critical()
2
3 The thread queue extract operations performed by the
4 _Thread_queue_Flush_critical() may result in a priority change of the
5 thread queue owner. Carry out the scheduler priority update operation.
6 This is especially important in SMP configurations.
7
8 Close #3236.

```

## 4.2.1.623 3235 - Fix rtems\_semaphore\_flush() for priority inheritance semaphores

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3235                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-11-16T13:08:04.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-16T13:40:44.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3235">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3235</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The `_Semaphore_Get_operations()` must return the proper operations for priority inheritance semaphores.

Add a test case for `rtems_semaphore_flush()` with priority inheritance.

**Author:** Trac Migrate 2017-11-16T13:40:44.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"79a998d8629e8603e5df1191483409973f9a119d/rtems" 79a998d/rtems]:

```

1 rtems: rtems_semaphore_flush() with prio inherit
2
3 The _Semaphore_Get_operations() must return the proper operations for
4 priority inheritance semaphores.
5
6 Add a test case for rtems_semaphore_flush() with priority inheritance.
7
8 Close #3235.
```

## 4.2.1.624 3132 - Add reference counting to file descriptors

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3132                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-09-13T05:56:39.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-15T12:25:56.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | filesystem, priority::normal, resolution::fixed, tickettype::enhancement, version::5                                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3132">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3132</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The use of a file descriptor after or during a close() operation may result in a **use after free**. Finding such errors in applications is difficult. Especially in SMP systems using the highly dynamic libbsd network stack.

The file descriptor objects reside in a table with a application configuration defined size. So, the storage of a file descriptor object is always present, only the referenced file system node may change over time. The file system nodes may use an internal reference counting, which is independent of the file descriptors.

To implement reference counting for the file descriptors add a bit field for the reference count to the `rtems_libio_t::flags` and use atomic operations to maintain the flags.

Each operation using a file descriptor should perform a sequence like this:

```

1 int op( int fd, ... )
2 {
3   rtems_libio_t *iop;
4   unsigned int   flags;
5
6   if ( (uint32_t) fd >= rtems_libio_number_iops ) {
7     rtems_set_errno_and_return_minus_one( EBADF );
8   }
9
10  iop = rtems_libio_iop( fd );
11  flags = rtems_libio_iop_hold( iop );
12
13  if ( ( flags & LIBIO_FLAGS_OPEN ) == 0 ) {
14    rtems_libio_iop_drop( _iop );
15    rtems_set_errno_and_return_minus_one( EBADF );
16  }
17
18  do_op( iop, ... );
19  rtems_libio_iop_drop( iop );
20  return 0;
21 }
```

A `close()` should return -1 with `EBUSY` in case the file descriptor is referenced. In this case, no close operation will be performed.

**Author:** Trac Migrate 2017-09-13T05:56:49.000Z

Original author: sebastian.huber

- **Status** changed from *assigned* to *accepted*

**Author:** Trac Migrate 2017-09-14T05:03:35.000Z

Original author: sebastian.huber

In [changeset:"ead1281fe0ad188ed6c47a2c85070aae7e79be39/rtems" ead1281f/rtems]:

```
1 bsp/mrm332: Remove dead code
2
3 Update #3132.
```

**Author:** Trac Migrate 2017-09-14T06:36:11.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```
1 The use of a file descriptor after or during a close() operation may
  ↳ result in a [use after free](https://cwe.mitre.org/data/definitions/
  ↳ 416.html). Finding such errors in applications is difficult.
  ↳ Especially in SMP systems using the highly dynamic libbsd network
  ↳ stack.
2
3 The file descriptor objects reside in a table with a application
  ↳ configuration defined size. So, the storage of a file descriptor
  ↳ object is always present, only the referenced file system node may
  ↳ change over time. The file system nodes may use an internal reference
  ↳ counting, which is independent of the file descriptors.
4
5 To implement reference counting for the file descriptors add a bit
  ↳ field for the reference count to the rtems_libio_t::flags and use
  ↳ atomic operations to maintain the flags.
6
7 Each operation using a file descriptor should perform a sequence like
  ↳ this:
8 {{{
9 - int op(int fd, ...)
10 + int op( int fd, ... )
11 ?      +      +
```

(continues on next page)

(continued from previous page)

```

12
13 {
14 -   uint32_t flags;
15 rtems_libio_t *iop;
16 -
17 -   iop = rtems_libio_iop(fd, &flags);
18 -   if (iop == NULL) {
19 -       return EBADF;
20 +   unsigned int  flags;
21 +
22 +   if ( (uint32_t) fd >= rtems_libio_number_iops ) {
23 +       rtems_set_errno_and_return_minus_one( EBADF );
24 }
25
26 -   if (conditions_for_op_are_not_ok(flags)) {
27 +   iop = rtems_libio_iop( fd );
28 +   flags = rtems_libio_iop_hold( iop );
29 +
30 +   if ( ( flags & LIBIO_FLAGS_OPEN ) == 0 ) {
31 -       rtems_libio_iop_done(iop);
32 ?               ^^
33
34 +   rtems_libio_iop_drop( _iop );
35 ?           + ^ ++ +
36
37 +   rtems_set_errno_and_return_minus_one( EBADF );
38 }
39
40 -   do_op(iop);
41 +   do_op( iop, ... );
42 ?       +   ++++++
43
44 -   rtems_libio_iop_done(iop);
45 ?               ^^
46
47 +   rtems_libio_iop_drop( iop );
48 ?           + ^ + +
49
50 return 0;
51 }
52 }}}
53
54 A close() should return -1 with EBUSY in case the file descriptor is_
  ↪referenced. In this case, no close operation will be performed.

```

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-09-15T08:58:46.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

In [changeset:"7b4520258d1d449bd14c83a6b6490be8375e4a35/rtems" 7b45202/rtems]:

```
1 libio: Simplify rtems_libio_iop()
2
3 Remove the file descriptor validation. This is the job of
4 rtems_libio_check_fd(). Use an inline function instead of a macro.
5
6 Update #3132.
```

**Author:** Trac Migrate 2017-09-15T08:58:57.000Z

Original author: sebastian.huber

In [changeset:"4b759b189206de94207196ba937ba7b2137aa0bf/rtems" 4b759b1/rtems]:

```
1 libio: Avoid direct use of rtems_libio_iops
2
3 Update #3132.
```

**Author:** Trac Migrate 2017-09-15T08:59:09.000Z

Original author: sebastian.huber

In [changeset:"0169e90e8488b1af029486e7215600c87a014fa3/rtems" 0169e90/rtems]:

```
1 libio: Do simple parameter checks early
2
3 This simplifies error handling later.
4
5 Update #3132.
```

**Author:** Trac Migrate 2017-09-15T08:59:20.000Z

Original author: sebastian.huber

In [changeset:"48dbb6cf16aad7db732b0f929b2e1803dccc6b4a/rtems" 48dbb6cf/rtems]:

```
1 libio: Remove rtems_libio_check_permissions()
2
3 Remove rtems_libio_check_permissions() and convert single user to
4 rtems_libio_check_permissions_with_error().
5
6 Update #3132.
```

**Author:** Trac Migrate 2017-09-15T08:59:32.000Z

Original author: sebastian.huber

In [changeset:"ec10d266ba8bca9e0142cff75cb016038967f0d8/rtems"  
ec10d26/rtems]:

```
1 libio: rtems_libio_check_permissions_with_error()  
2  
3 Rename rtems_libio_check_permissions_with_error() in  
4 rtems_libio_check_permissions().  
5  
6 Update #3132.
```

**Author:** Trac Migrate 2017-09-15T08:59:43.000Z

Original author: sebastian.huber

In [changeset:"856ede4f91a76a1a681ceac24ddb18d3a438dffb/rtems"  
856ede4f/rtems]:

```
1 libio: Add iop set/clear flags  
2  
3 Update #3132.
```

**Author:** Trac Migrate 2017-09-15T08:59:56.000Z

Original author: sebastian.huber

In [changeset:"ca90c6c1db3881ce5a44e06610a29a128e5455f2/rtems"  
ca90c6c/rtems]:

```
1 libio: Add rtems_libio_iop_flags_initialize()  
2  
3 Update #3132.
```

**Author:** Trac Migrate 2017-09-15T09:00:08.000Z

Original author: sebastian.huber

In [changeset:"e2b1db231196e0c395d0e19d9b35c0d7da2a5d3e/rtems"  
e2b1db23/rtems]:

```
1 libio: Add rtems_libio_iop_flags()  
2  
3 Update #3132.
```

**Author:** Trac Migrate 2017-09-15T09:00:20.000Z

Original author: sebastian.huber

In [changeset:"bbcdc302cd901e11b5c43527b91ffb5344669338/rtems"bbcdc302/rtems]:

```
1 libio: Add rtems_libio_iop_is_no_delay()
2
3 Update #3132.
```

**Author:** Trac Migrate 2017-09-15T09:00:32.000Z

Original author: sebastian.huber

In [changeset:"a937a5a5347cf945fe7eff17eccd97cc849a5349/rtems"a937a5a/rtems]:

```
1 libio: Add rtems_libio_iop_is_readable()
2
3 Update #3132.
```

**Author:** Trac Migrate 2017-09-15T09:00:45.000Z

Original author: sebastian.huber

In [changeset:"3cffd66d763ec83de382e2cb03c04e2eba0ac5e9/rtems"3cffd66d/rtems]:

```
1 libio: Add rtems_libio_iop_is_writeable()
2
3 Update #3132.
```

**Author:** Trac Migrate 2017-09-15T09:00:57.000Z

Original author: sebastian.huber

In [changeset:"d4c54416b73bd1a067e8270543d30146f55eea91/rtems"d4c5441/rtems]:

```
1 libio: Add rtems_libio_iop_is_append()
2
3 Update #3132.
```

**Author:** Trac Migrate 2017-09-15T09:01:09.000Z

Original author: sebastian.huber

In [changeset:"9012db84f611d5c394683ddcca95354928a8b505/rtems"9012db8/rtems]:



```

1 libio: LIBIO_GET_IOP() LIBIO_GET_IOP_WITH_ACCESS()
2
3 Replace rtems_libio_check_fd(), rtems_libio_iop(),
4 rtems_libio_check_open() and rtems_libio_check_permissions()
5 combinations with new LIBIO_GET_IOP() and LIBIO_GET_IOP_WITH_ACCESS()
6 macros.
7
8 Update #3132.

```

**Author:** Trac Migrate 2017-09-15T09:01:20.000Z

Original author: sebastian.huber

In [changeset:"98041b685e9cbe4916d8684372389e899698da16/rtems" 98041b68/rtems]:

```

1 libio: Unify readv() and writev()
2
3 Update #3132.

```

**Author:** Trac Migrate 2017-09-15T09:01:32.000Z

Original author: sebastian.huber

In [changeset:"baef823cd550449bfbcc36625b9571389d8ad1af/rtems" baef823c/rtems]:

```

1 libio: Add hold/drop iop reference
2
3 Check iop reference count in close() and return -1 with errno set to
4 EBUSY in case the file descriptor is still in use.
5
6 Update #3132.

```

**Author:** Trac Migrate 2017-09-15T10:49:57.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"894c965d95d971392b14bd2e9c0abf380ba80f02/rtems-libbsd" 894c965/rtems-libbsd]:

```

1 Support reference counting for file descriptors
2
3 Close #3132.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

**Author:** Trac Migrate 2017-11-15T12:23:13.000Z

Original author: sebastian.huber

In [changeset:"d4b99ae3f8698df11c865c83ec65b316bb5bb64b/rtems"d4b99ae/rtems]:

```
1 libio: Add assert to rtems_libio_iop_drop()
2
3 This assert helps to detect an invalid reference counting in RTEMS_DEBUG
4 configurations.
5
6 Update #3132.
```

**Author:** Trac Migrate 2017-11-15T12:25:56.000Z

Original author: sebastian.huber

In [changeset:"b03a1c0b5913ff5eee9f3113b20396c189b27123/rtems-libbsd"b03a1c0/rtems-libbsd]:

```
1 Fix file descriptor reference counting in accept()
2
3 Update #3132.
```

#### 4.2.1.625 3234 - Quick Start Instructions Inconsistent

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3234                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                       |
| <b>Created</b>     | 2017-11-14T18:28:45.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-14T18:35:48.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::invalid, tickettype::defect, version::5                                               |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3234">https://gitlab.rtems.org/rtems/rtems/-/issues/3234</a> |
| <b>Merges</b>      | 0                                                                                                                   |

In section 5 of the User's Manual, the clone of rtems-source-builder has you clone it into rsb but the sb-bootstrap command is based on cloning it into the rsb subdirectory.

---

**Author:** Joel Sherrill 2017-11-14T18:29:00.000Z

---

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

---

**Author:** Joel Sherrill 2017-11-14T18:35:48.000Z

---

- **Resolution** set to ~"invalid"
- **Status** changed from *assigned* to *closed*

Must have misread the documentation.

#### 4.2.1.626 2949 - Questionable patch organization in RTEMS tools and RSB

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2949                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-03-21T14:19:11.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-13T07:39:52.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::wontfix, tickettype::defect, tool::rtems-source-builder                                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2949">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2949</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Patches for RTEMS tools are available via the RTEMS tools repository:

<https://git.rtems.org/rtems-tools/tree/tools>

They are organized using subdirectories.

The RSB uses these patches. It removes the subdirectories and collects everything in a “patches” directory, e.g.

download: <https://git.rtems.org/rtems-tools/plain/tools/4.11/newlib/arm/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff> -> patches/newlib-ARM-Optimize-IEEE-754-sqrt-implementation.diff

This works only in case the patch file names are unique. So, the use of subdirectories in the RTEMS tools is questionable.

---

**Author:** Amar Takhar 2017-03-22T12:25:02.000Z

---

Original author: sebastian.huber

This should be easily solved by preserving the subdirectories when downloading. Keeping the subdirectories is good for organisation and still handy when they've been downloaded.

---

**Author:** Chris Johns 2017-03-22T23:42:36.000Z

---

Original author: sebastian.huber

Is the issue switching between branches when testing?

There is the patch option of `--rsb-file=` that overrides the RSB's detection of a file name from the URL. This option assumes a file name and not a file path.

I question the need for patches being in rtems-tools, the less we have the better off we are. I cannot see how we can remove the ones we have without needing to update the 4.11 and master branches.

The RSB has evolved to being able to download patches from a range of sources. I prefer to see patches referenced from upstream sources where ever possible. Mailing list archives are a good source of patches and I wonder if this is a better place for us to hold any patches we need?

The ability to support a download directory structure would mean the RSB would need to more complex code to handle some of sites we currently download from. I am not sure how to do this.

---

**Author:** Gedare Bloom 2017-03-23T15:53:24.000Z

---

Original author: sebastian.huber

The problem of multiple patches with the same name would be a problem regardless of the source of the patches. This namespace problem could be solved by renaming all patches to something that should be unique, e.g. the hash value of the file.

---

**Author:** Chris Johns 2017-03-24T01:28:52.000Z

---

Original author: sebastian.huber

Replying to **Gedare**:

The problem of multiple patches with the same name would be a problem regardless of the source of the patches. This namespace problem could be solved by renaming all patches to something that should be unique, e.g. the hash value of the file.

The hash value of the file would work and a good idea. I was concerned about making it difficult to find the patch or file from the error or log but a hash is something you can grep the config tree for.

If no hash is provided the file name can be used. This keeps the bootstrap of adding new files like it currently is, ie a warning.

This would be common to the source and patch directories. Is that OK?

---

**Author:** Chris Johns 2017-03-24T04:29:59.000Z

---

Original author: sebastian.huber

A problem with using the hashes is releases, that is:

<https://ftp.rtems.org/pub/rtems/releases/4.11/4.11.1/sources/>

The release procedure uses the RSB in a download only mode to collect all the source needed in a release.

I am not sure how to handle this.

---

**Author:** Trac Migrate 2017-03-24T10:27:31.000Z

---

Original author: sebastian.huber

I think we should stop to use subdirectories in the RTEMS tools for the patches.

---

**Author:** Chris Johns 2017-03-24T22:27:34.000Z

---

Original author: sebastian.huber

Sebastian, I did not understand your last comment.

---

**Author:** Chris Johns 2017-03-27T04:37:32.000Z

---

Original author: sebastian.huber

I fixed [#2951](#) using the patch from the newlib mailing list:

<https://git.rtems.org/rtems-source-builder/commit/?id=b47a811955e427f945f8958de87158e9990dc7da>

I like this approach. The `-rsb-file` option can be used to make a patch name unique such as pre-pending `rtems-4.11-` to the start.

---

**Author:** Trac Migrate 2017-03-27T05:18:29.000Z

---

Original author: sebastian.huber

I think we should copy everything we need to a place we can control. URLs may get out of date and web servers may disappear. GCC snapshots seem to be only available for six months or so.

---

**Author:** Trac Migrate 2017-03-27T05:20:21.000Z

---

Original author: sebastian.huber

Replying to [Sebastian Huber](#):

I think we should stop to use subdirectories in the RTEMS tools for the patches.

In case we copy everything into one directory on the patch consumer side, e.g. RSB, release directory, then we should not use subdirectories to make a patch unique on the patch provider side, e.g. RTEMS tools.

---

**Author:** Chris Johns 2017-03-27T05:42:35.000Z

---

Original author: sebastian.huber

Replying to **Sebastian Huber**:

I think we should copy everything we need to a place we can control. URLs may get out of date and web servers may disappear.

For a release this is what happens. The directory for 4.11.1 is:

<https://ftp.rtems.org/pub/rtems/releases/4.11/4.11.1/sources/>

and this is all the source for that release.

I am not sure I follow the context of “copy everything”. In terms of a time line the only points that matter are the release branch heads for the active and previous branch and master. I do not see any value in a single collection point for any and every patch the RSB references over time.

Attempting to make sure all commits in the RSB are functional does not make sense. Hosts change and this effects the RSB so there are 2 dependent variables in play.

GCC snapshots seem to be only available for six months or so.

Yes as we have discovered. I am fine with an FTP area on the ftp.rtems.org being set up for special cases if we have a need and gcc fills this role. If a release references a GCC snapshot when the release will contain a copy. The downside of this is a clutter of files that are of no value sitting around.

In case we copy everything into one directory on the patch consumer side, e.g. RSB, release directory, then we should not use subdirectories to make a patch unique on the patch provider side, e.g. RTEMS tools.

Yes, and I am for us not using rtems-tools for patches any more.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-06-08T07:54:08.000Z

Original author: sebastian.huber

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

The consensus seems to be that rtems-tools should no longer be used for patches.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

**Author:** Trac Migrate 2017-11-13T07:39:52.000Z

Original author: sebastian.huber

In [changeset:"3a32d15be90d13adcb0d42846de1a4bd97116b3b/rtems-tools" 3a32d15/rtems-tools]:

```
1 Add tool patches warning
2
3 Update #2949.
```

4.2.1.627 3232 - Use of .. *include::* in the User Manual should be changed.

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3232                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2017-11-12T23:04:38.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-13T02:27:40.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3232">https://gitlab.rtems.org/rtems/rtems/-/issues/3232</a> |
| <b>Merges</b>      | 0                                                                                                                   |

This tricket for Sphinx highlights an issue when using .. *include::*, we should be using .. *toctree::*

<https://github.com/sphinx-doc/sphinx/issues/3432>

**Author:** Trac Migrate 2017-11-13T00:54:00.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"ac0eaff94117757046867bc92797d6c2dae78cd4/rtems-docs" ac0eaff/rtems-docs]:

```

1 Use '.. toctree::' and not '.. include::' in the User Manual.
2
3 - Change all suitable '.. include::' to TOC tree.
4 - Remove unused and not needed sections.
5 - Fix the conf.py to not exclude some files.
6
7 Close #3232.
```

**Author:** Trac Migrate 2017-11-13T02:27:40.000Z

In [changeset:"33849946ff6022c26722ec71248fd76aa55de4ef/rtems-docs" 3384994/rtems-docs]:

```

1 Clean up sphinx warnings.
2
3 - Fix minor formatting issues.
4 - Fix reference the gloassary TLS using ':term:'.
5 - Make sure nothing is between an anchor and the heading where ':ref:'
  ↪ references
6 the anchor. This meant moving all the recently added '.. index::'
  ↪ entries.
7
8 Update #3232.
9 Update #3229.
```

#### 4.2.1.628 3226 - gdb: pr 16827, fix sim on Mavricks

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3226                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-11-10T08:48:52.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-10T09:07:22.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::gdb, version::5                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3226">https://gitlab.rtems.org/rtems/rtems/-/issues/3226</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

- [gdb-sim-arange-inline.diff](#)



- [gdb-sim-cgen-inline.diff](#)

**Author:** Trac Migrate 2017-11-10T08:50:03.000Z

Original author: sebastian.huber

- **Attachment** [gdb-sim-arange-inline.diff](#) added

**Author:** Trac Migrate 2017-11-10T08:50:14.000Z

Original author: sebastian.huber

- **Attachment** [gdb-sim-cgen-inline.diff](#) added

**Author:** Trac Migrate 2017-11-10T09:07:22.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"831bc7ebbce0e04cd6d9e7768a64068c1e0750dc/rtems-source-builder" 831bc7e/rtems-source-builder]:

```
1 5: Avoid rtems-tools for epiphany GDB
2
3 Close #3226.
```

#### 4.2.1.629 3225 - Upgrade m32c to GDB 8.0.1

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3225                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-11-10T08:33:13.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-10T08:36:40.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, tool::gdb, version::5                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3225">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3225</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

**Author:** Trac Migrate 2017-11-10T08:36:40.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”d20f4df8572bb9537136ecb409025d88736c8151/rtems-source-builder” d20f4df/rtems-source-builder]:

```
1 5: Upgrade m32c to GDB 8.0.1
2
3 Close #3225.
```

#### 4.2.1.630 3224 - Upgrade or1k and m32c to Binutils 2.29

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3224                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-11-10T08:13:50.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-10T08:17:09.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, tool::binutils, version::5                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3224">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3224</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

**Author:** Trac Migrate 2017-11-10T08:14:00.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*

**Author:** Trac Migrate 2017-11-10T08:17:09.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *accepted* to *closed*

In [changeset:”dbe55c357a81b5c00a5266d82fc200f9ae713d7c/rtems-source-builder” dbe55c3/rtems-source-builder]:

```
1 5: Use Binutils 2.29 for or1k and m32c
2
3 This avoids Binutils patches from rtems-tools.
4
5 Close #3224.
```

## 4.2.1.631 3185 - Change uptime seconds to int32\_t

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3185                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-10-12T11:27:33.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T12:40:44.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3185">https://gitlab.rtems.org/rtems/rtems/-/issues/3185</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The use of a 64-bit integer for the uptime seconds is overkill. Use int32\_t instead for \_Time-counter\_Time\_uptime. Change derived APIs, e.g. rtems\_clock\_get\_uptime\_seconds().

**Author:** Trac Migrate 2017-10-12T11:27:47.000Z

Original author: sebastian.huber

- **Summary** changed from *Change uptime to int32\_t* to *Change uptime seconds to int32\_t*

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

**Author:** Trac Migrate 2017-11-09T07:09:37.000Z

Original author: sebastian.huber

In [changeset:"c6b890c4e1d45e83469478d87e9a5bc80509b289/rtems-source-builder" c6b890c/rtems-source-builder]:

```

1 5: Add Newlib patches
2
3 Update #3185.
4 Close #3189.
```

**Author:** Trac Migrate 2017-11-09T07:14:19.000Z

Original author: sebastian.huber

In [changeset:"5f02a574783d3ee5fa5e119af1a2d5e163dd1143/rtems" 5f02a57/rtems]:

```
1 score: Change _Timecounter_Time_uptime to int32_t
2
3 Move basic timecounter API shared with BSD network stack to
4 <machine/_timecounter.h>.
5
6 Update #3185.
```

**Author:** Trac Migrate 2017-11-09T12:39:54.000Z

Original author: sebastian.huber

In [changeset:"b225aa1fc1b8a4c86444bfe8be41985338162a4f/rtems" b225aa1/rtems]:

```
1 Reject incompatible tool chains
2
3 Update #3185.
```

**Author:** Trac Migrate 2017-11-09T12:40:44.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

#### 4.2.1.632 3189 - MUTEX\_INITIALIZER missing braces warning

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3189                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-10-13T01:50:07.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T07:09:37.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::high, resolution::fixed, tickettype::defect, tool::newlib, version::5                                               |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3189">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3189</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Hi

Multiple tests have this warning. Appears to be something not quite right in the newlib .h files.

```

1 21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxhdrs/pthread/
   ↳ pthread_mutex_unlock.c:27:27: warning: missing braces around initializer [-
   ↳ Wmissing-braces]
2 21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxhdrs/pthread/
   ↳ pthread_mutex_trylock.c:27:27: warning: missing braces around initializer [-
   ↳ Wmissing-braces]
3 21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxhdrs/pthread/
   ↳ pthread_mutex_timedlock.c:30:27: warning: missing braces around initializer [-
   ↳ Wmissing-braces]
4 21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxhdrs/pthread/
   ↳ pthread_mutex_lock.c:27:27: warning: missing braces around initializer [-
   ↳ Wmissing-braces]
5 21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxhdrs/pthread/
   ↳ pthread_mutex_init.c:27:31: warning: missing braces around initializer [-
   ↳ Wmissing-braces]
6 21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxhdrs/pthread/
   ↳ pthread_mutex_destroy.c:27:28: warning: missing braces around initializer [-
   ↳ Wmissing-braces]
7 21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxhdrs/pthread/
   ↳ pthread_cond_wait.c:28:27: warning: missing braces around initializer [-
   ↳ Wmissing-braces]
8 21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxhdrs/pthread/
   ↳ pthread_cond_timedwait.c:28:27: warning: missing braces around initializer [-
   ↳ Wmissing-braces]
9 21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxautoinit02/init.
   ↳ c:33:25: warning: missing braces around initializer [-Wmissing-braces]
10 21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxautoinit01/init.
   ↳ c:29:28: warning: missing braces around initializer [-Wmissing-braces]
11 21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psxautoinit01/init.
   ↳ c:28:28: warning: missing braces around initializer [-Wmissing-braces]
12 21 ../../../../../../rtems/c/src/../../../../testsuites/psxtests/psx0

```

**Author:** Joel Sherrill 2017-10-13T01:50:22.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-10-13T06:04:01.000Z

How did you get these warnings? I get them when I turn on -Wsystem-headers by hand.

**Author:** Trac Migrate 2017-10-13T06:09:49.000Z

Fixed in Newlib. I will integrate this with the October Newlib snapshot.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

**Author:** Trac Migrate 2017-11-09T07:09:37.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”c6b890c4e1d45e83469478d87e9a5bc80509b289/rtems-source-builder” c6b890c/rtems-source-builder]:

```
1 5: Add Newlib patches
2
3 Update #3185.
4 Close #3189.
```

#### 4.2.1.633 3218 - Termios canonical mode (ICANON) does not return input line by line

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3218                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-11-07T06:50:14.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | device::serial, priority::normal, resolution::fixed, tickettype::defect, version::5                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3218">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3218</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

In canonical mode, input is made available line by line. We must stop the canonical buffer filling upon reception of an end-of-line character.

**Author:** Trac Migrate 2017-11-08T07:44:45.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”791469bd4fb1eba09ea8464795f100d7dd09379e/rtems” 791469bd/rtems]:

```
1 termios: Fix canonical mode
2
```

(continues on next page)

(continued from previous page)

```

3 In canonical mode, input is made available line by line. We must stop
4 the canonical buffer filling upon reception of an end-of-line character.
5
6 Close #3218.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.634 3216 - Replace vprintk() implementation

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3216                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-11-02T15:25:09.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3216">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3216</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The current vprintk() implementation has a questionable licence header, lacks support for the ‘z’ and ‘j’ format specifiers, is not robust against invalid format specifiers, uses a global variable for output. Replace it with a stripped down version of the FreeBSD kernel kvprintf() function.

**Author:** Chris Johns 2017-11-02T20:48:50.000Z

Original author: sebastian.huber

Good idea.

**Author:** Trac Migrate 2017-11-06T06:29:13.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”10827984c2cf54188a9af71b94a7e83197812bb5/rtems”  
1082798/rtems]:

```

1 score: Add _IO_Printf() and _IO_Vprintf()
2
3 The previous vprintf() implementation had a questionable licence header,
4 lacks support for the 'z' and 'j' format specifiers, is not robust
5 against invalid format specifiers, uses a global variable for output.
6 Replace it with a stripped down version of the FreeBSD kernel kvprintf()
7 function.
8
9 The new implementation allows a low overhead rtems_snprintf() if
10 necessary.
11
12 Update #3199.
13 Close #3216.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.635 3215 - Configuring a System Still Includes Notepads and Has Wrong Heading

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3215                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                                 |
| <b>Created</b>     | 2017-11-02T15:08:04.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3215">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3215</a> |
| <b>Merges</b>      | 0                                                                                                                             |

This section has the wrong heading and needs to be deleted anyway.

```

1 24.8.2. Specify Maximum Classic API Timers
2 CONSTANT:
3 CONFIGURE_ENABLE_CLASSIC_API_NOTEPADS

```

**Author:** Joel Sherrill 2017-11-02T15:08:15.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-11-02T15:13:51.000Z



- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"120c8a09e6f8f857b6933c7119c18903f2f869d5/rtems-docs" 120c8a0/rtems-docs]:

```
1 c-user/configuring_a_system.rst: Delete notepads section
2
3 closes #3215.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.636 3211 - Fix pthread\_create() with user provided stack

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3211                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-10-27T06:58:22.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, tickettype::defect                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3211">https://gitlab.rtems.org/rtems/rtems/-/issues/3211</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

In case the user provides a stack with address and size, then do not alter the stack size.

**Author:** Trac Migrate 2017-10-28T11:14:18.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1d572eba9748f815486258b2e87d831e5bdee038/rtems" 1d572eba/rtems]:

```
1 posix: Fix pthread_create() with user stack
2
3 In case the user provides a stack with address and size, then do not
4 alter the stack size.
5
6 Close #3211.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.637 3205 - Relative timespec timeouts are subject to integer overflows

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3205                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-10-24T09:07:21.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, tickettype::defect, version::5                                               |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3205">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3205</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

As a best-effort approach, a very large relative timeout should result in the maximum monotonic watchdog value and not in an undefined integer overflow.

**Author:** Trac Migrate 2017-11-03T06:08:04.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"3e81d52e27ea030fc93580c610c40616ab2b0559/rtems" 3e81d52/rtems]:

```
1 posix: Use far future for very long timeouts
2
3 Close #3205.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.638 3202 - or1k tools build error

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3202                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-10-23T14:24:53.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:or1k, priority::normal, resolution::fixed, tickettype::defect, version::5                                                |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3202">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3202</a> |
| <b>Merges</b>      | 0                                                                                                                             |

I assume this is a side-effect of recent checksum changes. Otherwise, there is a serious problem.

```

ownload:          (full)      https://git.rtems.org/rtems-tools/plain/tools/4.12/gdb/gdb-7.11-sis-leon2-leon3.diff -> patches/gdb-7.11-sis-leon2-leon3.diff  download:      https://git.rtems.org/rtems-tools/plain/tools/4.12/gdb/gdb-7.11-sis-leon2-leon3.diff -
> patches/gdb-7.11-sis-leon2-leon3.diff  checksums:      gdb-7.11-sis-leon2-leon3.diff:
0b8b2a23c7d1592315fe0130188f457c80f8b1e26645535bed091a5e0671682dc44a1987d00e6939a1b1c562c7
=> 4c44afec9c00a45b9322d787da3796f3294f207ddae9fe9faab3327b6991ac75  warning:
checksum error: gdb-7.11-sis-leon2-leon3.diff error: checksum failure file: patches/gdb-7.11-
sis-leon2-leon3.diff

```

**Author:** Joel Sherrill 2017-10-23T14:25:04.000Z

- **Description** changed

```

1 I assume this is a side-effect of recent checksum changes. Otherwise,
2 ↪ there is a serious problem.
3 +
4 + ownload: (full) https://git.rtems.org/rtems-tools/plain/tools/4.12/gdb/gdb-7.11-sis-leon2-leon3.diff -> patches/gdb-7.11-sis-leon2-leon3.diff
5 + download: https://git.rtems.org/rtems-tools/plain/tools/4.12/gdb/gdb-7.11-sis-leon2-leon3.diff -> patches/gdb-7.11-sis-leon2-leon3.diff
6 + checksums: gdb-7.11-sis-leon2-leon3.diff:
7 ↪ 0b8b2a23c7d1592315fe0130188f457c80f8b1e26645535bed091a5e0671682dc44a1987d00e6939a1b1c562c7
8 ↪ => 4c44afec9c00a45b9322d787da3796f3294f207ddae9fe9faab3327b6991ac75
9 + warning: checksum error: gdb-7.11-sis-leon2-leon3.diff
10 + error: checksum failure file: patches/gdb-7.11-sis-leon2-leon3.diff
11 +

```

**Author:** Trac Migrate 2017-10-23T16:18:07.000Z

- **Owner** set to Joel Sherrill <[joel@rtems.org](mailto:joel@rtems.org)>
- **Resolution** set to ~"fixed"

- **Status** changed from *new* to *closed*

In [changeset:"5295cb8a2d8d46b8477c173ce7f1d8750da8daf0/rtems-source-builder" 5295cb8/rtems-source-builder]:

```
1 rtems-gdb-7.11-1.cfg: Correct sha512sum on gdb-7.11-sis-leon2-leon3.diff
2
3 Closes #3202.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.639 3201 - epiphany tools checksum error

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3201                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-10-23T14:24:00.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:epiphany, priority::normal, resolution::fixed, tickettype::defect, version::5                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3201">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3201</a> |
| <b>Merges</b>      | 0                                                                                                                             |

I assume this is a side-effect of the recent checksum changes. If that's the case, it just needs to be updated. Otherwise, it is a more serious error.

download: (full) <https://github.com/adapteva/epiphany-gcc/archive/f7051762470c42ce7f01baa7edeb113d51c7dd72.zip> ->  
sources/f7051762470c42ce7f01baa7edeb113d51c7dd72.zip download: <https://github.com/adapteva/epiphany-gcc/archive/f7051762470c42ce7f01baa7edeb113d51c7dd72.zip>  
zip -> sources/f7051762470c42ce7f01baa7edeb113d51c7dd72.zip  
redirect: <https://codeload.github.com/adapteva/epiphany-gcc/zip/f7051762470c42ce7f01baa7edeb113d51c7dd72> redirect: <https://codeload.github.com/adapteva/epiphany-gcc/zip/f7051762470c42ce7f01baa7edeb113d51c7dd72>  
checksums: f7051762470c42ce7f01baa7edeb113d51c7dd72.zip:  
4d911e7bff4f1827dd7712669d20e4a1bf02806df0fae113ff0e7d13466bef2e =>  
2b2034fd12f2fd5108205ade66400c175ede8cef8141a38ae03fc78bf2d65325 warning: check-  
sum error: f7051762470c42ce7f01baa7edeb113d51c7dd72.zip error: checksum failure file:  
sources/f7051762470c42ce7f01baa7edeb113d51c7dd72.zip

**Author:** Trac Migrate 2017-10-23T17:20:00.000Z

- **Owner** set to Joel Sherrill <[joel@rtems.org](mailto:joel@rtems.org)>

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"6c60a4bf600f0bef3b4f7637c8415bc7ce458bc5/rtems-source-builder" 6c60a4b/rtems-source-builder]:

```
1 rtems-epiphany.bset: Add sha512sum for GCC git repository
2
3 Closes #3201.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.640 3200 - m32c tests don't build – test\_context too large

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3200                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-10-23T14:22:22.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3200">https://gitlab.rtems.org/rtems/rtems/-/issues/3200</a> |
| <b>Merges</b>      | 0                                                                                                                   |

../../../../../../../../rtems/c/src/../../../../testsuites/tmtests/tmfine01/init.c:58:21: error: size of variable 'test\_instance' is too large static test\_context test\_instance;

FWIW I marked this as unspecified because this is just a generic small target issue.

**Author:** Joel Sherrill 2017-10-23T14:22:32.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

**Author:** Joel Sherrill 2017-10-23T18:12:30.000Z

- **Owner** set to sebastian.huber

The number of resources needs to be lowered on m32c. It has limited indexing and offset ability in its instructions. This patch lets it compile. Is this OK to commit?

```
git diff diff --git a/testsuites/tmtests/tmfine01/init.c b/testsuites/tmtests/tmfine01/i
index 31843ce..4d9e6ec 100644 --- a/testsuites/tmtests/tmfine01/init.c +++
b/testsuites/tmtests/tmfine01/init.c @@ -28,7 +28,11 @@
```

```
const char rtems_test_name[] = "TMFINE 1";
+ #if defined(__m32c__) + #define CPU_COUNT 3 + #else
+ #endif
```

**Author:** Trac Migrate 2017-10-24T07:28:08.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"0e1ad7fa58a476b6d0d46e8fd4e08af5ab0d4cf7/rtems" 0e1ad7fa/rtems]:

```
1 tmtests/tmfine01: Reduce test context size
2
3 Reduce test context size in non-SMP configurations.
4
5 Close #3200.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.641 3198 - Add lazy update of line control and baud divisor to NS16550 serial driver

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3198                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-10-18T05:18:39.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | device::serial, priority::normal, resolution::fixed, ticket-type::enhancement                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3198">https://gitlab.rtems.org/rtems/rtems/-/issues/3198</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Updates of the line control and baud divisor while transfers are in progress may lead to unpredictable behaviour on some chips. Perform the updates only if necessary.

**Author:** Trac Migrate 2017-10-18T06:52:56.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"

- **Status** changed from *assigned* to *closed*

In [changeset:"67015b617e68c97e73266d625bea0edccfa42d44/rtems" 67015b6/rtems]:

```
1 dev/serial: Lazy update of NS16550 settings
2
3 Updates of the line control and baud divisor while transfers are in
4 progress may lead to unpredictable behaviour on some chips. Perform the
5 updates only if necessary.
6
7 Close #3198.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.642 3190 - RTEMS Tester covoar does not link on MacOS

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3190                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-10-13T16:29:18.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool, version::5                                                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3190">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3190</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The executables do not link on MacOS.

**Author:** Trac Migrate 2017-10-13T16:34:25.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"0054585256208db81a0660f439321afbe2b42df0/rtems-tools" 0054585/rtems-tools]:

```
1 tester/covoar: Use standard waf modules for linking.
2
3 Use the standard modules `use` option for building executables and
4 let waf figure out the platform specifics.
```

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5  
6 Closes #3190.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.643 3188 - Add C11 Threading Examples

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3188                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                       |
| <b>Created</b>     | 2017-10-12T19:21:24.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, version::5                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3188">https://gitlab.rtems.org/rtems/rtems/-/issues/3188</a> |
| <b>Merges</b>      | 0                                                                                                                   |

C11 is new and we need to provide examples.

**Author:** Joel Sherrill 2017-10-12T19:21:40.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

**Author:** Joel Sherrill 2017-10-12T19:22:36.000Z

Add c11 directory to examples-v2 which contains a set of examples for using the entire C11 <threads.h> API.

c11\_thread01 - multiple threads, arguments, yield, sleep c11\_mutex01 - mutual exclusion, blocking, timeout c11\_cndvar01 - use condition variable to signal data arrival c11\_key01 - per thread storage

**Author:** Trac Migrate 2017-10-12T19:23:27.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1963961794e16b1bb263cc4514cac3c7382b416a/examples-v2"  
1963961/examples-v2]:



```

1 Add examples for using the entire C11 <threads.h> API.
2
3 c11_thread01 - multiple threads, arguments, yield, sleep
4 c11_mutex01 - mutual exclusion, blocking, timeout
5 c11_cndvar01 - use condition variable to signal data arrival
6 c11_key01    - per thread storage
7
8 Closes #3188.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.644 3187 - smptests/Makefile.am Issues

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3187                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-10-12T18:32:24.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::build, tickettype::defect, version::5                                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3187">https://gitlab.rtems.org/rtems/rtems/-/issues/3187</a> |
| <b>Merges</b>      | 0                                                                                                                   |

There appear to be two issues in smptests/Makefile.am:

1. smppsxafinity0[12] are listed twice. This causes a warning. I am unsure if they should always be built or only when POSIX is enabled.
2. smppsxmutex01 is listed in the "HAS\_POSIX" section. Aren't POSIX mutexes always on now so this test should not be inside the conditional?

**Author:** Joel Sherrill 2017-10-12T18:32:53.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-10-13T04:55:00.000Z

It is a bit work left to enable the POSIX tests by default, e.g. a lot of them use pthread\_create().

**Author:** Trac Migrate 2017-10-25T05:59:02.000Z

The 2. is a duplicate of [#2514](#).

**Author:** Trac Migrate 2017-10-25T05:59:40.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"e3ef14b1a66197746b9aecef3b208c701ee440b8/rtems" e3ef14b/rtems]:

```
1 smptests: Remove duplicate Makefile targets
2
3 Close #3187.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.645 3181 - Various cc1plus warnings for "valid for C/ObjC but not for C++"

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3181                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-10-12T02:30:54.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::build, tickettype::defect, version::5                                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3181">https://gitlab.rtems.org/rtems/rtems/-/issues/3181</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Fix these

```
1 cc1plus: warning: command line option '-Wmissing-prototypes' is valid for C/ObjC
  ↳ but not for C++
2 cc1plus: warning: command line option '-Wimplicit-function-declaration' is valid
  ↳ for C/ObjC but not for C++
3 cc1plus: warning: command line option '-Wstrict-prototypes' is valid for C/ObjC
  ↳ but not for C++
4 cc1plus: warning: command line option '-Wnested-externs' is valid for C/ObjC but
  ↳ not for C++
```

**Author:** Trac Migrate 2017-10-12T02:35:11.000Z

- **Owner** set to Joel Sherrill <[joel@rtems.org](mailto:joel@rtems.org)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"14e5a0824be096def3da717f68eee85e64a7d0de/rtems" 14e5a08/rtems]:

```
1 Fix warnings for using C/ObjC specific GCC flags with C++
2
3 Closes #3181.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.646 3179 - New warnings from Time Changes

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3179                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-10-12T01:23:54.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::highest, resolution::fixed, tickettype::defect, version::5                                              |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3179">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3179</a> |
| <b>Merges</b>      | 0                                                                                                                             |

New warnings after picking up your recent commits. How are you checking for warnings?

```
1 ../../../../../../rtems/c/src/../../../../cpukit/posix/src/pthreadattrdefault.c:58:5:
  ↳ warning: initialization discards 'const' qualifier from pointer target type [-
  ↳ Wdiscarded-qualifiers]
2 &_POSIX_Threads_Default_attributes.affinitysetpreallocated,
3 ^
4 ../../../../../../rtems/c/src/../../../../cpukit/posix/src/adjtime.c: In function
  ↳ 'adjtime':
5 ../../../../../../rtems/c/src/../../../../cpukit/posix/src/adjtime.c:85:16: warning:
  ↳ passing argument 1 of '_TOD_Adjust' from incompatible pointer type [-
  ↳ Wincompatible-pointer-types]
6 _TOD_Adjust( &delta_as_timestamp );
7 ^
```

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```

8 In file included from ../../../../../../rtems/c/src/../../../../cpukit/posix/src/
  ↳ adjtime.c:28:0:
9 ../../../../../../erc32/lib/include/rtems/score/todimpl.h:287:6: note:
  ↳ expected 'const struct timespec *' but argument is of type 'Timestamp_Control *
  ↳ {aka long long int *}'
10 void _TOD_Adjust(
11 ^~~~~~
12 sparc-rtems4.12-ar: `u' modifier ignored since `D' is the default (see `U')
13 sparc-rtems4.12-ar: `u' modifier ignored since `D' is the default (see `U')
14 sparc-rtems4.12-ar: `u' modifier ignored since `D' is the default (see `U')
15 sparc-rtems4.12-ar: `u' modifier ignored since `D' is the default (see `U')
16 ../../../../../../rtems/c/src/../../../../cpukit/libcsupport/src/__times.c: In function
  ↳ '_times':
17 ../../../../../../rtems/c/src/../../../../cpukit/libcsupport/src/__times.c:60:31:
  ↳ warning: passing argument 1 of '_TOD_Get_zero_based_uptime' from incompatible
  ↳ pointer type [-Wincompatible-pointer-types]
18 _TOD_Get_zero_based_uptime( &binuptime );
19 ^
20 In file included from ../../../../../../rtems/c/src/../../../../cpukit/libcsupport/src/_
  ↳ __times.c:35:0:
21 ../../../../../../erc32/lib/include/rtems/score/todimpl.h:215:20: note:
  ↳ expected 'Timestamp_Control * {aka long long int *}' but argument is of type
  ↳ 'struct bintime *'
22 static inline void _TOD_Get_zero_based_uptime(
23 ^~~~~~
24 ../../../../../../rtems/c/src/../../../../cpukit/libcsupport/src/__times.c:71:55:
  ↳ warning: passing argument 2 of '_Thread_Get_CPU_time_used' from incompatible
  ↳ pointer type [-Wincompatible-pointer-types]
25 _Thread_Get_CPU_time_used( _Thread_Get_executing(), &bin_cpu_time_used );
26 ^
27 In file included from ../../../../../../rtems/c/src/../../../../cpukit/libcsupport/src/_
  ↳ __times.c:37:0:
28 ../../../../../../erc32/lib/include/rtems/score/threadimpl.h:906:6: note:
  ↳ expected 'Timestamp_Control * {aka long long int *}' but argument is of type
  ↳ 'struct bintime *'
29 void _Thread_Get_CPU_time_used(
30 ^~~~~~

```

**Author:** Joel Sherrill 2017-10-12T01:24:09.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-10-12T05:20:28.000Z

In [changeset:"5850054098b08aa87501fe464a0e4764916a433b/rtems"  
58500540/rtems]:

```

1 posix: Fix const qualifier warning
2
3 Update #2514.
4 Update #3179.

```

**Author:** Trac Migrate 2017-10-12T05:27:11.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"16db540a59d92a2006ddb7d32e2f8727dfec22ca/rtems"16db540a/rtems]:

```

1 Use right time format in _times()
2
3 Update #2740.
4 Close #3179.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.647 3178 - Update sh-rtems4.12 bset to use rtems-default (using old gcc)

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3178                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-10-12T01:11:16.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::gcc, version::5                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3178">https://gitlab.rtems.org/rtems/rtems/-/issues/3178</a> |
| <b>Merges</b>      | 0                                                                                                                   |

I built a toolset and all BSPs on Centos 7 after switching this to rtems-default.bset again. There was no comment indicating why it was using an older gcc so I assume something has been fixed.

**Author:** Trac Migrate 2017-10-12T02:15:31.000Z

- **Owner** set to Joel Sherrill <[joel@rtems.org](mailto:joel@rtems.org)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"c7f286e100e6c563cb837d77ab635edf23199ab3/rtems-source-builder" c7f286e/rtems-source-builder]:

```
1 rtems-sh.bset: Use default toolset specifically GCC 7
2
3 Closes #3178.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.648 3177 - Replace/update POSIX Compliance Guide

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3177                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-10-11T22:36:34.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3177">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3177</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The POSIX Compliance Guide was never converted from texinfo. Beyond that, it is out of date and follows the outline of the printed version of the POSIX standard which no one sees anymore. This ticket proposes:

1. new Sphinx document
2. contents generated from POSIX API tracking spreadsheet (CSV)
3. outline per .h file, not functional area
4. use bullets, not tables so easier to format

**Author:** Joel Sherrill 2017-10-11T22:37:09.000Z

- **Milestone** set to %"4.12.0"
- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

**Author:** Chris Johns 2017-10-12T19:29:47.000Z

- **Owner** set to @chrisj

Add waf support to convert the CSV file to ReST.

**Author:** Trac Migrate 2017-10-13T01:26:12.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"2804294c6c1858553cff6f7b355fe8a5ba9a7259/rtems-docs" 2804294/rtems-docs]:

```
1 posix-compliance: Add automatic generation of the ReST file from CSV
  ↪ data.
2
3 Closes #3177.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.649 3174 - Remove rtems\_pthread\_attribute\_compare()

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3174                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-10-09T13:24:14.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3174">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3174</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The rtems\_pthread\_attribute\_compare() function is undocumented and used only in one test. Move it to the test.

**Author:** Trac Migrate 2017-10-10T05:44:03.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"da9f5f113332459444a2a89cbb011c2bbea202da/rtems" da9f5f1/rtems]:

```

1 posix: Remove rtems_pthread_attribute_compare()
2
3 Update #2514.
4 Close #3174.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.650 3168 - Simplify POSIX\_API\_Control

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3168                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-10-05T13:28:04.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3168">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3168</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

There is no need to have a copy of the thread attributes used for the pthread\_create() in POSIX\_API\_Control::Attributes. This is at least in line with Linux.

- [test-5.c](#)

**Author:** Trac Migrate 2017-10-05T13:28:41.000Z

Original author: sebastian.huber

- **Attachment** [test-5.c](#) added

Test program.

**Author:** Trac Migrate 2017-10-10T05:43:49.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*



In [changeset:"af9115f35cfb3d0adeb3e105fd608883596f2637/rtems" af9115f3/rtems]:

```

1 posix: Simplify POSIX_API_Control
2
3 Return stack area via pthread_getattr_np().
4
5 Simplify
6
7 * pthread_attr_setaffinity_np(), and
8 * pthread_attr_getaffinity_np()
9
10 and let the scheduler do the more sophisticated error checks.
11
12 Make
13
14 * pthread_setaffinity_np(),
15 * pthread_getaffinity_np(),
16 * pthread_attr_setaffinity_np(), and
17 * pthread_attr_getaffinity_np()
18
19 available in all configurations.
20
21 Update #2514.
22 Close #3145.
23 Close #3168.

```

**Author:** Trac Migrate 2017-11-02T10:25:59.000Z

Original author: sebastian.huber

In [changeset:"81fd79daf0a48f51c3ca29c953e029d645fd08fb/rtems" 81fd79d/rtems]:

```

1 smppsaffinity02: Fix thread attribute usage
2
3 The pthread_getattr_np() returns now the stack address and size. Do not
4 use this stack for the new threads.
5
6 Update #2514.
7 Update #3145.
8 Update #3168.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.651 3167 - Internal status codes must not depend on RTEMS\_POSIX\_API

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3167                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-10-05T07:24:55.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3167">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3167</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The internal status codes encode a Classic `rtems_status_code` and error codes used by the POSIX and C11/C++11 APIs. In case the POSIX API is disabled, the C11/C++11 support must still work.

**Author:** Trac Migrate 2017-10-05T07:46:12.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"5cf5d46ec864d99be72c99f3a6eed970a34548b7/rtems"5cf5d46e/rtems]:

```

1 score: Make status codes unconditional
2
3 The internal status codes encode a Classic rtems_status_code and error
4 codes used by the POSIX and C11/C++11 APIs. In case the POSIX API is
5 disabled, the C11/C++11 support must still work.
6
7 Close #3167.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.652 3166 - New default ticket assignee: NeedsReview

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3166                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-10-04T16:25:57.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, version::5                                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3166">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3166</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

We have too many tickets with an unclear state if someone is working on them. One problem is that the tickets are assigned to a real person by default. Assign the tickets to a virtual person NeedsReview to make it clear that this ticket has nobody assigned which can resolve it.

**Author:** Chris Johns 2017-10-04T23:53:48.000Z

Original author: sebastian.huber

I would prefer we remove the default owner from the components and have Trac leave the ticket unassigned.

**Author:** Trac Migrate 2017-10-05T04:56:39.000Z

Original author: sebastian.huber

Ok, I will remove the default owners tomorrow if nobody objects.

**Author:** Trac Migrate 2017-10-06T11:47:08.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

I removed the default owner for all components.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.653 3163 - Add I2C device driver for temperature sensor LM75A

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3163                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-10-02T11:40:34.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3163">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3163</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

**Author:** Trac Migrate 2017-10-02T11:41:40.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"4cfce5cb6457514947f2ffeba9e3168945cd370d/rtems" 4cfce5c/rtems]:

```

1 i2c: Add temperature sensor LM75A driver
2
3 Close #3163.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.654 3160 - Trace linker score support is broken

|                    |                                                                                                                                 |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3160                                                                                                                            |
| <b>State</b>       | closed                                                                                                                          |
| <b>Type</b>        | ISSUE                                                                                                                           |
| <b>Author</b>      | Chris Johns                                                                                                                     |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                     |
| <b>Created</b>     | 2017-10-01T00:23:33.000Z                                                                                                        |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                        |
| <b>Milestone</b>   | 5.1                                                                                                                             |
| <b>Labels</b>      | priority::high, resolution::fixed, tickettype::defect, version::5                                                               |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3160">https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3160</a> |
| <b>Merges</b>      | 0                                                                                                                               |

The trace linker needs to be updated to build. I am not sure which bit is broken. Building the tools gives:

```

1 [ 7/15] Compiling build/arm-rtems4.12-beagleboneblack/hello/both_hello/test.c.2.o
2 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:134:13:
   ↳error: 'Thread_queue_Flush_callout' undeclared here (not in a function); did
   ↳you mean 'Thread_queue_Flush_filter'?
3 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      { sizeof (Thread_
   ↳queue_Flush_callout), "Thread_queue_Flush_callout" },
4 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^~~~~~
   ↳~~~~~
5 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      Thread_
   ↳queue_Flush_filter
6 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:140:13:
   ↳error: 'CORE_mutex_Status' undeclared here (not in a function); did you mean
   ↳'CORE_mutex_Control'?
7 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      { sizeof (CORE_
   ↳mutex_Status), "CORE_mutex_Status" },
8 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^~~~~~
   ↳~~~~~
9 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      CORE_
   ↳mutex_Control
10 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:143:19:
   ↳error: unknown type name 'CORE_mutex_Attributes'
11 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      { sizeof (const_
   ↳CORE_mutex_Attributes*), "const CORE_mutex_Attributes*" },
12 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^~~~
   ↳~~~~~
13 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:160:13:
   ↳error: 'CORE_mutex_API_mp_support_callout' undeclared here (not in a function)
14 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      { sizeof (CORE_
   ↳mutex_API_mp_support_callout), "CORE_mutex_API_mp_support_callout" },
15 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:      ^~~~~~
   ↳~~~~~
16 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:321:13:
   ↳error: 'Objects_Locations' undeclared here (not in a function); did you mean

```

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```

↪ 'Objects_Information'?
17 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Objects_
↪ Locations*), "Objects_Locations*" },
18 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~
↪ ~~~~~
19 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: Objects_
↪ Information
20 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:321:31:
↪ error: expected expression before ')' token
21 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Objects_
↪ Locations*), "Objects_Locations*" },
22 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:
↪ ^
23 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:342:31:
↪ error: expected expression before ')' token
24 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Objects_
↪ Locations*), "Objects_Locations*" },
25 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:
↪ ^
26 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:359:31:
↪ error: expected expression before ')' token
27 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Objects_
↪ Locations*), "Objects_Locations*" },
28 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:
↪ ^
29 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:368:31:
↪ error: expected expression before ')' token
30 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Objects_
↪ Locations*), "Objects_Locations*" },
31 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:
↪ ^
32 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:443:31:
↪ error: expected expression before ')' token
33 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Objects_
↪ Locations*), "Objects_Locations*" },
34 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc:
↪ ^
35 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:548:13:
↪ error: 'Thread_Start_types' undeclared here (not in a function); did you mean '_
↪ Thread_Start'?
36 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Thread_
↪ Start_types), "Thread_Start_types" },
37 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~
↪ ~~~~~
38 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: _Thread_
↪ Start
39 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:570:13:
↪ error: 'Thread_blocking_operation_States' undeclared here (not in a function);
↪ did you mean 'Thread_queue_Operations'?

```

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```

40 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: { sizeof (Thread_
    ↳blocking_operation_States), "Thread_blocking_operation_States" },
41 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~
    ↳~~~~~
42 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: Thread_
    ↳queue_Operations
43 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c: In_
    ↳function 'rtld_pg_printk_entry':
44 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:678:3:
    ↳warning: implicit declaration of function 'printk'; did you mean 'printf'? [-
    ↳Wimplicit-function-declaration]
45 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: printk (">>> %s (0x
    ↳%08x)\\n", func_name, func_addr);
46 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~
47 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: printf
48 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c: At top_
    ↳level:
49 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:742:48:
    ↳error: expected declaration specifiers or '...' before 'Thread_queue_Flush_
    ↳callout'
50 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: void _CORE_mutex_
    ↳Flush(CORE_mutex_Control* a1, Thread_queue_Flush_callout a2, uint32_t a3);
51 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~
    ↳~~~~~
52 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:743:55:
    ↳error: expected declaration specifiers or '...' before 'Thread_queue_Flush_
    ↳callout'
53 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: void __real__CORE_
    ↳mutex_Flush(CORE_mutex_Control* a1, Thread_queue_Flush_callout a2, uint32_t a3);
54 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~
    ↳~~~~~
55 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:744:55:
    ↳error: expected declaration specifiers or '...' before 'Thread_queue_Flush_
    ↳callout'
56 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: void __wrap__CORE_
    ↳mutex_Flush(CORE_mutex_Control* a1, Thread_queue_Flush_callout a2, uint32_t a3)
57 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~
    ↳~~~~~
58 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: hello-deep.c:757:1:
    ↳error: unknown type name 'CORE_mutex_Status'; did you mean 'CORE_mutex_Control'?
59 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: CORE_mutex_Status _
    ↳CORE_mutex_Initialize(CORE_mutex_Control* a1, Thread_Control* a2, const CORE_
    ↳mutex_Attributes* a3, bool a4);
60 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: ^~~~~~
61 /Users/chris/development/rtems/4.12/bin/arm-rtems4.12-gcc: CORE_mutex_Control

```

This is a snip of the errors.

**Author:** Trac Migrate 2017-10-02T11:50:12.000Z

I removed these types some months ago. Are you on the right branch? How can I build this stuff?

---

**Author:** Chris Johns 2017-10-02T22:23:58.000Z

---

Replying to [Sebastian Huber](#):

I removed these types some months ago. Are you on the right branch?

Yes. There are types in the trace definitions ...

<https://git.rtems.org/rtems-tools/tree/linkers/rtems-score-coremutex.ini>

These definitions are a quick and dirty hack I would prefer to avoid however the long term solution is getting function signatures and types from the DWARF data but that work is more than the time I have available. I need someone to support the effort.

How can I build this stuff?

Clone examples-v2 and then build using the ./waf I have just added to the repo. The examples uses rtems\_waf so configured in a similar way to libbsd.

---

**Author:** Trac Migrate 2017-10-06T07:34:14.000Z

---

The CORE mutex implementation changed considerably. Most of it moved to inline functions. I am not sure what you want to trace here?

---

**Author:** Trac Migrate 2017-10-06T07:36:18.000Z

---

Maybe this should be replaced by the thread queue enqueue and extract functions.

---

**Author:** Chris Johns 2017-10-07T00:16:31.000Z

---

Replying to [Sebastian Huber](#):

Maybe this should be replaced by the thread queue enqueue and extract functions.

I think anything that makes sense will do. It is more of an example of what we can trace and the fact you can trace into the kernel some distance.

---

**Author:** Trac Migrate 2017-10-12T10:53:52.000Z

---

In `[changeset:"b76fa74df180ade2b858dffc74f801540ab2a1a/rtems-tools" b76fa74/rtems-tools]`:



```

1 linkers: Update due to API changes
2
3 Update #3160.

```

**Author:** Trac Migrate 2017-10-12T10:56:24.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"37425972cecaf819a39d2b2bc54487ca8dbaf5c9/examples-v2" 3742597/examples-v2]:

```

1 Update due to trace linker changes
2
3 Close #3160.

```

**Author:** Chris Johns 2017-10-12T15:54:19.000Z

Thank you for fixing this for me.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.655 3159 - Examples v2 trace linker ini files reference non-existing dump-on-error

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3159                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-10-01T00:21:06.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::high, resolution::fixed, tickettype::defect, version::5                                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3159">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3159</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Remove the dump-on-error option.

**Author:** Chris Johns 2017-10-02T00:14:07.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

---

**Author:** Joel Sherrill 2017-10-05T14:07:05.000Z

---

- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

This still fails for me. Did you actually push the fix? I fixed a few other examples-v2 failures. But these remain:

-> task in 'hello-deep.texte' failed with exit status 10 (run with -v to display more information)

Looks like missing update from recent changes.

-> task in 'fat\_ramdisk.texte' failed with exit status 10 (run with -v to display more information)

Looks like missing update from recent changes.

-> task in 'fdopen.texte' failed with exit status 10 (run with -v to display more information)

Not building filesystem image

-> task in 'crc.exe' failed with exit status 1 (run with -v to display more information)

Not building filesystem image

-> task in 'psx\_sched\_report.exe' failed with exit status 1 (run with -v to display more information)

RTEMS confdefs.h and newlib libc.a both define getreent.

---

**Author:** Chris Johns 2017-10-05T21:34:05.000Z

---

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

Replying to **Joel Sherrill**:

This still fails for me. Did you actually push the fix?

<https://git.rtems.org/examples-v2/commit/?id=c7dfbaf83c5b119106f9ee38c902988cc463b0aa>

It removes the dump-on-error issue which is the subject of this ticket.

Are you seeing **#3160**?

---

**Author:** Joel Sherrill 2017-10-05T22:26:58.000Z

---

Yes. It appears to impact both `_hello` and `fat_ramdisk`.

Did you look at the two tests which aren't building a filesystem image in waf?

---

**Author:** Chris Johns 2017-10-05T23:12:15.000Z

---

Replying to **Joel Sherrill**:

Yes. It appears to impact both `_hello` and `fat_ramdisk`.

It is the trace linker definitions. They need updating.

Did you look at the two tests which aren't building a filesystem image in waf?

No. Is that issue **#3158**? If so please update that ticket with the command you used to configure and build plus the output.

---

**Author:** Joel Sherrill 2017-10-05T23:40:26.000Z

---

OK. Looks like 3158 but I don't have a toolset now. Rebuilding with the latest changes. Will do that in the morning.

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from `%”4.12.0”` to `%”5.1”`

Milestone renamed

4.2.1.656 3158 - Examples v2 does not build

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3158                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-10-01T00:20:09.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::high, resolution::fixed, tickettype::defect, version::5                                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3158">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3158</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Updating waf breaks the rootfs. Add rootfs support to `rtems-waf.git`.

---

**Author:** Chris Johns 2017-10-02T00:13:35.000Z

---

- **Resolution** set to `~”fixed”`
- **Status** changed from *assigned* to *closed*

---

**Author:** Joel Sherrill 2017-10-06T19:41:46.000Z

---

- **Resolution** `~”fixed”` deleted
- **Status** changed from *closed* to *reopened*

I think this is still broken for me. I did a “git module update” and it didn’t seem to pull anything. The configure was this:

```
./waf configure -rtems=$HOME/rtems-work/tools/4.12/bsps -rtems-
tools=$HOME/rtems-work/tools/4.12 -rtems-bsps=sparc/erc32
```

I did “./waf -k” and multiple tests do not build currently. I cd’ed to file\_io/crc and then did this:

```
$ ../../waf clean 'clean-sparc-rtems4.12-erc32' finished successfully
(0.065s) [joel@localhost crc]$ ../../waf Waf: Entering directory
`/home/joel/rtems-work/examples-v2/build/sparc-rtems4.12-erc32' [0/2]
Compiling rootfs/image.img [1/2] Compiling ../../build/sparc-rtems4.12-
erc32/file_io/crc/fs-root.tar [2/6] Compiling crc_32.c [3/6] Compiling
../../build/sparc-rtems4.12-erc32/file_io/crc/fs-root-tar.c [4/6] Compiling init.c
../../file_io/crc/init.c:18:10: fatal error: FilesystemImage.h: No such file or
directory
```

```
^ ~~~~~ compilation terminated.
```

```
Waf: Leaving directory `/home/joel/rtems-work/examples-v2/build/sparc-
rtems4.12-erc32' Build failed -> task in 'crc.exe' failed with exit status 1 (run with
-v to display more information)
```

I did a “git submodule deinit .” and reinitialized the modules but that didn’t help either.

|                                                     |
|-----------------------------------------------------|
| <b>Author:</b> Chris Johns 2017-10-06T21:57:35.000Z |
|-----------------------------------------------------|

Replying to [Joel Sherrill](#):

I think this is still broken for me. I did a “git module update” and it didn’t seem to pull anything.

I have not worked on this since my last changes you have.

I did “./waf -k” and multiple tests do not build currently. I cd’ed to file\_io/crc and then did this:

Using -k is a good idea. I should have done that.

```
../../file_io/crc/init.c:18:10: fatal error: Filesys-
temImage.h: No such file or directory
```

```
^ ~~~~~
```

I have changed the bin2tar file name to clean up the code. The code now uses the rtems\_waf //rootfs// to create the C filesystem file.

I did a “git submodule deinit .” and reinitialized the modules but that didn’t help either.

This a bug I did not see because the build I did stopped at the trace linker errors.

**Author:** Joel Sherrill 2017-10-06T22:04:09.000Z

Awesome! Any other tests which look easy to fix?

**Author:** Trac Migrate 2017-10-12T11:03:38.000Z

In [changeset:"4b907ce1888864b5f311e99606d42493ea8ef96a/examples-v2" 4b907ce/examples-v2]:

```
1 Fix configuration warnings
2
3 Update #3158.
```

**Author:** Trac Migrate 2017-10-12T11:07:34.000Z

In [changeset:"7a8df0d7b90a9ca710829662cda44400e29a2cd7/examples-v2" 7a8df0d/examples-v2]:

```
1 Fix warnings
2
3 Update #3158.
```

**Author:** Trac Migrate 2017-10-12T11:12:24.000Z

The following errors are left:

```
1 Waf: Entering directory `build/arm-rtems4.12-xilinx_zynq_a9_qemu'
2 [ 29/115] Compiling file_io/crc/init.c
3 [ 34/115] Compiling build/arm-rtems4.12-xilinx_zynq_a9_qemu/file_io/
  ↳ fdopen/test.c.2.o
4 error: config section: dump-on-error: not found
5
6 [108/115] Linking build/arm-rtems4.12-xilinx_zynq_a9_qemu/posix_api/psx_
  ↳ sched_report/psx_sched_report.exe
7 ../../file_io/crc/init.c:18:10: fatal error: FilesystemImage.h: No such_
  ↳ file or directory
8 #include "FilesystemImage.h"
9 ^~~~~~
10 compilation terminated.
11
12 librtmscpu.a(default-configuration.o): In function `__getreent':
13 confdefs.h:2342: multiple definition of `__getreent'
14 Waf: Leaving directory `build/arm-rtems4.12-xilinx_zynq_a9_qemu'
15 Build failed
16 -> task in 'fdopen.texe' failed with exit status 10 (run with -v to_
  ↳ display more information)
```

(continues on next page)

(continued from previous page)

```

17 -> task in 'crc.exe' failed with exit status 1 (run with -v to display
    ↪ more information)
18 -> task in 'psx_sched_report.exe' failed with exit status 1 (run with -
    ↪ v to display more information)

```

**Author:** Chris Johns 2017-10-12T15:59:18.000Z

Replying to [Sebastian Huber](#):

The following errors are left: {{{ Waf: Entering directory  
 `build/arm-rtems4.12-xilinx\_zynq\_a9\_qemu' [ 29/115] Compil-  
 ing file\_io/crc/init.c [ 34/115] Compiling build/arm-rtems4.12-  
 xilinx\_zynq\_a9\_qemu/file\_io/fdopen/test.c.2.o error: config section:  
 dump-on-error: not found }}}}

The fix is to remove the line from the INI file.

```

{{{ [108/115] Linking build/arm-rtems4.12-
xilinx_zynq_a9_qemu/posix_api/psx_sched_report/psx_sched_report.exe
../../file_io/crc/init.c:18:10: fatal error: FilesystemImage.h:
No such file or directory

^~~~~~ compilation termi-
nated. }}}

```

I change the name of the file system image. I have refactored  
 the support so rtems\_waf can build a tar file and create the  
 C/H files with a single build instance. I forgot to update the  
 init.c files.

```

{{{ librtemscpu.a(default-configuration.o): In
function `__getreent': confdefs.h:2342: multiple
definition of `__getreent' }}}

```

This is one Joel has been looking at and has  
 posted on the newlib list about.

**Author:** Trac Migrate 2017-10-12T19:11:24.000Z

In [changeset:"f15676fb8592a698420b5af6138579f469c826e8/examples-v2"  
 f15676f/examples-v2]:

```

1 Make crc and fdopen build
2
3 Updates #3158.

```

**Author:** Joel Sherrill 2017-10-12T19:16:23.000Z

psx\_sched\_report fails due to [#3176](#) and using a default configuration. Changing  
 that test to have an explicit RTEMS configuration.

**Author:** Trac Migrate 2017-10-12T19:17:28.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

In [changeset:"b6c5dbb24981b0ca93a94734acccb65be872b34f/examples-v2" b6c5dbb/examples-v2]:

```
1 psx_sched_report: Add RTEMS configuration to address build issue.
2
3 Closes #3158.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.657 3157 - PowerPC tools don't build on 32-bit hosts

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3157                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                       |
| <b>Created</b>     | 2017-09-29T20:31:32.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::duplicate, resolution::fixed, ticket-type::defect, version::5                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3157">https://gitlab.rtems.org/rtems/rtems/-/issues/3157</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: jeff.mayes

Using RSB and trying to build PowerPC. Updated RSB just a few days ago. i386 and arm build successfully, but PowerPC fails.

```
configure:3662: checking for suffix of object files configure:3684: /opt/rtems-
tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-
cygwin-1/build/./gcc/xgcc -B/opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-gcc-
7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/build/./gcc/ -nostdinc -B/opt/rtems-
tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-
cygwin-1/build/powerpc-rtems4.12/me6500/m64/newlib/ -isystem /opt/rtems-
tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-
1/build/powerpc-rtems4.12/me6500/m64/newlib/targ-include -isystem /opt/rtems-
tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-
cygwin-1/gcc-7.2.0/newlib/libc/include -B/desk/rtems/powerpc-rtems4.12/bin/ -
B/desk/rtems/powerpc-rtems4.12/lib/ -isystem /desk/rtems/powerpc-rtems4.12/include
```

```
-isystem /desk/rtems/powerpc-rtems4.12/sys-include -mcpu=e6500 -m64 -c -g -O2 con-
fetest.c >&5 Assembler messages: Fatal error: -a64 unsupported configure:3688: $? = 1
configure: failed program was: | /* confdefs.h | #define PACKAGE_NAME "GNU C Run-
time Library" | #define PACKAGE_TARNAME "libgcc" | #define PACKAGE_VERSION "1.0" |
#define PACKAGE_STRING "GNU C Runtime Library 1.0" | #define PACKAGE_BUGREPORT
"" | #define PACKAGE_URL "http://www.gnu.org/software/libgcc/" | / end confdefs.h.
*/ | int | main () | { | ; | return 0; | } configure:3702: error: in `/opt/rtems-
tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-
1/build/powerpc-rtems4.12/me6500/m64/libgcc': configure:3705: error: cannot compute
suffix of object files: cannot compile
```

---

**Author:** Trac Migrate 2017-09-29T20:32:06.000Z

---

Original author: jeff.mayes

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

---

**Author:** Joel Sherrill 2017-09-29T20:55:48.000Z

---

Original author: jeff.mayes

- **Summary** changed from *PowerPC tools doesn't build* to *PowerPC tools don't build*

I have built the tools on two CentOS 7 computers. Jeff was on Cygwin and has successfully built both arm and x86.

---

**Author:** Trac Migrate 2017-09-30T07:20:20.000Z

---

Original author: jeff.mayes

Please make sure that no previous RTEMS tools are in your \$PATH before the build, e.g. delete the previous installation and try it again.

---

**Author:** Trac Migrate 2017-09-30T07:25:02.000Z

---

Original author: jeff.mayes

- **Resolution** set to ~"duplicate"
- **Status** changed from *assigned* to *closed*

Duplicate of [#2540](#).

---

**Author:** Trac Migrate 2017-10-04T19:48:34.000Z

---

Original author: jeff.mayes

- **Resolution** ~"duplicate" deleted



- **Status** changed from *closed* to *reopened*

OK. There are no RTEMS tools in my path. I deleted the build folder in my working dir and tried again. I also changed the #PREFIX to use a different directory. It still fails with the same error as reported.

Any other ideas? Thanks

**Author:** Trac Migrate 2017-10-04T19:55:52.000Z

Original author: jeff.mayes

Joel had the idea to see what verbose gcc output showed. This shows the as version used (2.29).

We have checked and my RSB is up to date. Is there any chance 64-bit PowerPC support is disabled in binutils on Cygwin?

```

1 + /opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.
   ↪5.0.20170818-i686-pc-cygwin-1/build/./gcc/xgcc -B/opt/rtems-tools/rsb/
   ↪rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-
   ↪cygwin-1/build/./gcc/ -nostdinc -B/opt/rtems-tools/rsb/rtems/build/
   ↪powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/
   ↪build/powerpc-rtems4.12/me6500/m64/newlib/ -isystem /opt/rtems-tools/
   ↪rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-
   ↪i686-pc-cygwin-1/build/powerpc-rtems4.12/me6500/m64/newlib/targ-
   ↪include -isystem /opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-
   ↪gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/gcc-7.2.0/newlib/
   ↪libc/include -B/desk/rtems/powerpc/powerpc-rtems4.12/bin/ -B/desk/
   ↪rtems/powerpc/powerpc-rtems4.12/lib/ -isystem /desk/rtems/powerpc/
   ↪powerpc-rtems4.12/include -isystem /desk/rtems/powerpc/powerpc-rtems4.
   ↪12/sys-include -mcpu=e6500 -m64 -c -g -v -O2 conftest.c
2 Reading specs from /opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-
   ↪gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/build/./gcc/specs
3 COLLECT_GCC=/opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.
   ↪0-newlib-2.5.0.20170818-i686-pc-cygwin-1/build/./gcc/xgcc
4 Target: powerpc-rtems4.12
5 Configured with: ../gcc-7.2.0/configure --prefix=/desk/rtems/powerpc --
   ↪bindir=/desk/rtems/powerpc/bin --exec_prefix=/desk/rtems/powerpc --
   ↪includedir=/desk/rtems/powerpc/include --libdir=/desk/rtems/powerpc/
   ↪lib --libexecdir=/desk/rtems/powerpc/libexec --mandir=/desk/rtems/
   ↪powerpc/share/man --infodir=/desk/rtems/powerpc/share/info --datadir=/
   ↪desk/rtems/powerpc/share --build=i686-pc-cygwin --host=i686-pc-cygwin_
   ↪--target=powerpc-rtems4.12 --disable-libstdcxx-pch --with-gnu-as --
   ↪with-gnu-ld --verbose --with-newlib --disable-nls --without-included-
   ↪gettext --disable-win32-registry --enable-version-specific-runtime-
   ↪libs --disable-lto --enable-newlib-io-c99-formats --enable-newlib-
   ↪iconv --enable-newlib-iconv-encodings=big5,cp775,cp850,cp852,cp855,
   ↪cp866,euc_jp,euc_kr,euc_tw,iso_8859_1,iso_8859_10,iso_8859_11,iso_
   ↪8859_13,iso_8859_14,iso_8859_15,iso_8859_2,iso_8859_3,iso_8859_4,iso_
   ↪8859_5,iso_8859_6,iso_8859_7,iso_8859_8,iso_8859_9,iso_ir_111,koi8_r,
   ↪koi8_ru,koi8_u,koi8_uni,ucs_2,ucs_2_internal,ucs_2be,ucs_2le,ucs_4,

```

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```

↪ucs_4_internal,ucs_4be,ucs_4le,us_ascii,utf_16,utf_16be,utf_16le,utf_
↪8,win_1250,win_1251,win_1252,win_1253,win_1254,win_1255,win_1256,win_
↪1257,win_1258 --enable-threads --disable-plugin --enable-libgomp --
↪enable-languages=c,c++
6 Thread model: rtems
7 gcc version 7.2.0 20170814 (RTEMS 4.12, RSB_
↪55f2d69e9b67cde23d61375fa34ef5b0f04a985d, Newlib 2.5.0.20170818) (GCC)
8 COLLECT_GCC_OPTIONS='-B' '/opt/rtems-tools/rsb/rtems/build/powerpc-
↪rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/build/./
↪gcc/' '-nostdinc' '-B' '/opt/rtems-tools/rsb/rtems/build/powerpc-
↪rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/build/
↪powerpc-rtems4.12/me6500/m64/newlib/' '-isystem' '/opt/rtems-tools/
↪rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-
↪i686-pc-cygwin-1/build/powerpc-rtems4.12/me6500/m64/newlib/targ-
↪include' '-isystem' '/opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.
↪12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/gcc-7.2.0/newlib/
↪libc/include' '-B' '/desk/rtems/powerpc/powerpc-rtems4.12/bin/' '-B'
↪'/desk/rtems/powerpc/powerpc-rtems4.12/lib/' '-isystem' '/desk/rtems/
↪powerpc/powerpc-rtems4.12/include' '-isystem' '/desk/rtems/powerpc/
↪powerpc-rtems4.12/sys-include' '-mcpu=e6500' '-m64' '-c' '-g' '-v' '-
↪O2'
9 /opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.
↪0.20170818-i686-pc-cygwin-1/build/./gcc/cc1.exe -quiet -nostdinc -v -
↪imultilib me6500/m64 -iprefix /opt/rtems-tools/rsb/rtems/build/
↪powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/
↪build/gcc/./lib/gcc/powerpc-rtems4.12/7.2.0/ -isystem /opt/rtems-
↪tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.
↪20170818-i686-pc-cygwin-1/build/./gcc/include -isystem /opt/rtems-
↪tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.
↪20170818-i686-pc-cygwin-1/build/./gcc/include-fixed -D__PPC_CPU_E6500_
↪_ -isystem /opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.
↪0-newlib-2.5.0.20170818-i686-pc-cygwin-1/build/powerpc-rtems4.12/
↪me6500/m64/newlib/targ-include -isystem /opt/rtems-tools/rsb/rtems/
↪build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-
↪cygwin-1/gcc-7.2.0/newlib/libc/include -isystem /desk/rtems/powerpc/
↪powerpc-rtems4.12/include -isystem /desk/rtems/powerpc/powerpc-rtems4.
↪12/sys-include conftest.c -quiet -dumpbase conftest.c -mcpu=e6500 -
↪m64 -auxbase conftest -g -O2 -version -o /tmp/ccRXH4mo.s
10 GNU C11 (GCC) version 7.2.0 20170814 (RTEMS 4.12, RSB_
↪55f2d69e9b67cde23d61375fa34ef5b0f04a985d, Newlib 2.5.0.20170818)_
↪(powerpc-rtems4.12)
11 compiled by GNU C version 5.3.0, GMP version 6.1.0, MPFR version 3.1.4,_
↪MPC version 1.0.3, isl version none
12 GGC heuristics: --param ggc-min-expand=100 --param ggc-min-
↪heapsize=131072
13 ignoring nonexistent directory "/opt/rtems-tools/rsb/rtems/build/
↪powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/
↪build/powerpc-rtems4.12/me6500/m64/newlib/targ-include"
14 ignoring nonexistent directory "/desk/rtems/powerpc/powerpc-rtems4.12/

```

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```

15 ↪include"
ignoring nonexistent directory "/desk/rtems/powerpc/powerpc-rtems4.12/
16 ↪sys-include"
#include "... " search starts here:
17 #include <...> search starts here:
18 /opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.
↪0.20170818-i686-pc-cygwin-1/build/./gcc/include
19 /opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.
↪0.20170818-i686-pc-cygwin-1/build/./gcc/include-fixed
20 /opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.
↪0.20170818-i686-pc-cygwin-1/gcc-7.2.0/newlib/libc/include
21 End of search list.
22 GNU C11 (GCC) version 7.2.0 20170814 (RTEMS 4.12, RSB_
↪55f2d69e9b67cde23d61375fa34ef5b0f04a985d, Newlib 2.5.0.20170818)_
↪(powerpc-rtems4.12)
23 compiled by GNU C version 5.3.0, GMP version 6.1.0, MPFR version 3.1.4,
↪MPC version 1.0.3, isl version none
24 GGC heuristics: --param ggc-min-expand=100 --param ggc-min-
↪heapsize=131072
25 Compiler executable checksum: c400f821a881560be7012bb91d375b83
26 COLLECT_GCC_OPTIONS='-B' '/opt/rtems-tools/rsb/rtems/build/powerpc-
↪rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/build/./
↪gcc/' '-nostdinc' '-B' '/opt/rtems-tools/rsb/rtems/build/powerpc-
↪rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/build/
↪powerpc-rtems4.12/me6500/m64/newlib/' '-isystem' '/opt/rtems-tools/
↪rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.0.20170818-
↪i686-pc-cygwin-1/build/powerpc-rtems4.12/me6500/m64/newlib/targ-
↪include' '-isystem' '/opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.
↪12-gcc-7.2.0-newlib-2.5.0.20170818-i686-pc-cygwin-1/gcc-7.2.0/newlib/
↪libc/include' '-B' '/desk/rtems/powerpc/powerpc-rtems4.12/bin/' '-B'
↪'/desk/rtems/powerpc/powerpc-rtems4.12/lib/' '-isystem' '/desk/rtems/
↪powerpc/powerpc-rtems4.12/include' '-isystem' '/desk/rtems/powerpc/
↪powerpc-rtems4.12/sys-include' '-mcpu=e6500' '-m64' '-c' '-g' '-v' '-
↪O2'
27 /opt/rtems-tools/rsb/rtems/build/powerpc-rtems4.12-gcc-7.2.0-newlib-2.5.
↪0.20170818-i686-pc-cygwin-1/build/./gcc/as -v -a64 -me6500 -many -
↪mbig -o conftest.o /tmp/ccRXH4mo.s
28 GNU assembler version 2.29 (powerpc-rtems4.12) using BFD version (GNU_
↪Binutils) 2.29
29 Assembler messages:
30 Fatal error: -a64 unsupported

```

**Author:** Chris Johns 2017-10-04T23:45:27.000Z

Original author: jeff.mayes

The error is happening in as and it would appear the PPC as does not support 64bit options. Does an as Linux build of the PPC support the -a64 option? Hint, use -save-temp to get a .s file and shift it to Linux and try.

I would compare the full build logs for a Linux build and a Cygwin build paying extra attention to the assembler configure and build. I would try and locate a PowerPC 64bit assembler file in the as source and see if it is build on Linux and Cygwin.

**Author:** Trac Migrate 2017-10-05T06:53:10.000Z

Original author: jeff.mayes

The BFD configuration is in Binutils bfd/config.bfd:

```

1 powerpc-*-bsd* | powerpc-*-elf* | powerpc-*-sysv4* | powerpc-*-eabi* | \
  ↪ \
2 powerpc-*-solaris2* | powerpc-*-linux-* | powerpc-*-rtems* | \
3 powerpc-*-chorus*)
4 targ_defvec=powerpc_elf32_vec
5 targ_selvecs="rs6000_xcoff_vec powerpc_elf32_le_vec powerpc_boot_vec"
6 targ64_selvecs="powerpc_elf64_vec powerpc_elf64_le_vec"
7 ;;

```

Looks like some Cygwin-specific build problem to me.

**Author:** Trac Migrate 2017-10-10T22:53:01.000Z

Original author: jeff.mayes

With Joel's help, I got it to build today. Here are the changes we made:

```

1 jeff@Win7-VM /opt/rtems-tools/rsb/rtems
2 $ git diff config/tools/rtems-binutils-2.29-1.cfg
3 diff --git a/rtems/config/tools/rtems-binutils-2.29-1.cfg b/rtems/
  ↪ config/tools/rtems-binutils-2.29-1.cfg
4 index 6941ebb..87580f8 100644
5 --- a/rtems/config/tools/rtems-binutils-2.29-1.cfg
6 +++ b/rtems/config/tools/rtems-binutils-2.29-1.cfg
7 @@ -20,6 +20,11 @@
8 %define with_deterministic_archives 1
9
10 #
11 +# Enable 64-bit BFD support
12 +#
13 +%define with_64_bit_bfd 1
14 +
15 +#
16 # The binutils build instructions. We use 2.xx Release 1.
17 #
18 %include %[_configdir]/binutils-2-1.cfg
19
20 jeff@Win7-VM /opt/rtems-tools/rsb/rtems
21 $ git diff ../source-builder/config/binutils-2-1.cfg
22 diff --git a/source-builder/config/binutils-2-1.cfg b/source-builder/

```

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```

↪ config/binutils-2-1.cfg
23 index 539f076..0b4101d 100644
24 --- a/source-builder/config/binutils-2-1.cfg
25 +++ b/source-builder/config/binutils-2-1.cfg
26 @@ -70,6 +70,7 @@ BuildRoot: %[_tmppath]/%{name}-root-%(%{__id_u} -n)
27 --target=%[_target] \
28 --verbose --disable-nls \
29 %{?with_deterministic_archives:--enable-deterministic-archives} \
30 +   %{?with_64_bit_bfd:--enable-64-bit-bfd} \
31 %{?with_gold:--enable-gold=yes} \
32 %{?with_lto:--enable-lto --enable-plugins}%{!?with_lto:--disable-lto} \
33 --without-included-gettext \

```

**Author:** Chris Johns 2017-10-11T10:21:20.000Z

Original author: jeff.mayes

Please correct the ticket and: 1. Assign ownership to Joel. 2. Set a milestone 3. Add binutils PowerPC 64bit to the tags Thanks

What hosts have you tested?

**Author:** Joel Sherrill 2017-10-11T10:33:42.000Z

Original author: jeff.mayes

- **Milestone** set to %"4.12.0"
- **Owner** set to @joel
- **Status** changed from *reopened* to *assigned*

No other hosts have been tested. We were happy it worked on Cygwin. If you are ok with the patch, we can test it elsewhere.

**Author:** Chris Johns 2017-10-11T11:32:44.000Z

Original author: jeff.mayes

Replying to **Joel Sherrill**:

No other hosts have been tested. We were happy it worked on Cygwin. If you are ok with the patch, we can test it elsewhere.

Patch looks fine with a minor change in the commit to say Enable 64-bit BFD support. Needed on 32bit hosts.. We just need to make sure other hosts are not broken.

**Author:** Joel Sherrill 2017-10-11T12:13:05.000Z

Original author: jeff.mayes

Testing now on CentOS 7 and Fedora 26 which are 64-bit hosts.

Following up on a comment from Sebastian that I missed. This is not Cygwin specific. It is an issue on all 32-bit hosts. The bfd magic silently disables 64-bit BFD on 32-bit hosts unless you specify `--enable-64-bit-bfd`. I have not checked yet if sparc64 or aarch64 will build on 32-bit Cygwin. They may need this option also. I will ask Jeff to check if they build. They may need this option also.

**Author:** Trac Migrate 2017-10-11T20:24:31.000Z

Original author: jeff.mayes

Just tested aarch64 and sparc64 with the fixed files, and they both build just fine.

**Author:** Joel Sherrill 2017-10-11T23:57:25.000Z

Original author: jeff.mayes

- **Summary** changed from *PowerPC tools don't build* to *PowerPC tools don't build on 32-bit hosts*

**Author:** Trac Migrate 2017-10-12T02:18:45.000Z

Original author: jeff.mayes

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"c4b6bf0d6ddc0b57a5c091bb8d4ae0961293c48a/rtems-source-builder" c4b6bf0/rtems-source-builder]:

```
1 Enable 64-bit BFD support. Needed on 32bit hosts
2
3 Closes #3157.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: jeff.mayes

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.658 3153 - Accept PTHREAD\_PROCESS\_SHARED for POSIX rwlocks

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3153                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-09-22T06:13:58.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3153">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3153</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Since we have only one process, sharing between processes is trivial.

**Author:** Trac Migrate 2017-09-22T06:46:59.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"bdc468a9c52ff89ff79fab84a1cbc6bfa8c872ca/rtems" bdc468a/rtems]:

```
1 posix: Allow PTHREAD_PROCESS_SHARED for rwlocks
2
3 Close #3153.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.659 3142 - POSIX: Reduce size of pthread\_once\_t and make it zero-initialized

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3142                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-09-19T11:17:59.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3142">https://gitlab.rtems.org/rtems/rtems/-/issues/3142</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

A zero-initialized pthread\_once\_t reduces the ROM usage of RTEMS applications, since the global pthread\_once\_t objects may reside in the BSS section.

**Author:** Trac Migrate 2017-09-19T11:18:05.000Z

Original author: sebastian.huber

- **Status** changed from *assigned* to *accepted*

**Author:** Trac Migrate 2017-09-19T11:18:34.000Z

Original author: sebastian.huber

- **Summary** changed from *POSIX: Reduce size of pthread\_once\_t and make it low zero-initialized* to *POSIX: Reduce size of pthread\_once\_t and make it zero-initialized*

**Author:** Trac Migrate 2017-10-05T12:36:06.000Z

Original author: sebastian.huber

In [changeset:"47b1e31f119a5830976bc16d9495d6ccb27a909a/rtems" 47b1e31/rtems]:

```

1 posix: Optimize pthread_once_t
2
3 Reduce size of pthread_once_t and make it zero-initialized.
4
5 Update #3142.
```

**Author:** Trac Migrate 2017-10-06T12:48:57.000Z



Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *accepted* to *closed*

Fixed with latest RSB.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.660 3141 - Change the BSP Howto’s name to something smaller.

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3141                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2017-09-18T23:05:20.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | doc, priority::normal, resolution::fixed, tickettype::task, version::5                                              |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3141">https://gitlab.rtems.org/rtems/rtems/-/issues/3141</a> |
| <b>Merges</b>      | 0                                                                                                                   |

The BSP Howto’s current name is:

### RTEMS BSP and Device Driver Development Guide

This is long and causes problems in the PDF output. Change the name to:

### RTEMS BSP and Driver Guide

**Author:** Trac Migrate 2017-10-12T23:53:55.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”c6f8e512b916147faae59687d13611291ef0f426/rtems-docs”  
c6f8e51/rtems-docs]:

```

1 Shorten the name of the BSP and Device Driver Development Guide
2
3 Old name:
4
5 RTEMS BSP and Device Driver Development Guide
6
```

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```

7 This is long and causes problems in the PDF output. This patch
8 changes the name to:
9
10 RTEMS BSP and Driver Guide
11
12 Closes #3141.

```

**Author:** Trac Migrate 2017-10-13T00:04:38.000Z

In [changeset:"13a15f908d0296b0547cb6c5f198c18a6d309aee/rtems-docs" 13a15f9/rtems-docs]:

```

1 Shorten BSP and Driver Guide name (missed commit)
2
3 Updates #3141.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.661 3140 - CPU Kit broken with --enable-rtems-debug

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3140                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-09-18T22:53:25.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::highest, resolution::fixed, rtems::score, tickettype::defect, version::5                                  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3140">https://gitlab.rtems.org/rtems/rtems/-/issues/3140</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Building with:

```

1 .... /rtems.git/configure --target=arm-rtems4.12 --prefix=/opt/work/chris/rtems/
  ↪ kernel/4.12 --disable-networking --enable-rtemsbsp=beagleboneblack --enable-
  ↪ maintainer-mode --enable-rtems-debug

```

results in an error:

```

1 gmake[5]: Entering directory '/opt/work/chris/rtems/kernel/bsps/beagleboneblack/
  ↪ arm-rtems4.12/c/beagleboneblack/cpukit/score'

```

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```

2 arm-rtems4.12-gcc --pipe -DHAVE_CONFIG_H -I. -I../cpukit/../../../../
  ↳ beagleboneblack/lib/include -mcpu=cortex-a8 -O2 -g -ffunction-sections -fdata-
  ↳ sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-
  ↳ prototypes -Wnested-externs -MT src/libscore_a-semaphore.o -MD -MP -MF src/.
  ↳ deps/libscore_a-semaphore.Tpo -c -o src/libscore_a-semaphore.o `test -f 'src/
  ↳ semaphore.c' || echo '/opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/
  ↳ score/'`src/semaphore.c
3 In file included from /opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/
  ↳ score/src/semaphore.c:21:0:
4 /opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/score/src/semaphore.c:
  ↳ In function '_Semaphore_Post':
5 /opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/score/src/semaphore.
  ↳ c:134:27: error: 'UINT_MAX' undeclared (first use in this function); did you
  ↳ mean 'UINT8_MAX'?
6 _Assert( sem->count < UINT_MAX );
7 ^
8 ../../cpukit/../../../../beagleboneblack/lib/include/rtems/score/assert.h:67:12:
  ↳ note: in definition of macro '_Assert'
9 ( ( _e ) ? \
10 ^~
11 /opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/score/src/semaphore.
  ↳ c:134:27: note: each undeclared identifier is reported only once for each
  ↳ function it appears in
12 _Assert( sem->count < UINT_MAX );
13 ^
14 ../../cpukit/../../../../beagleboneblack/lib/include/rtems/score/assert.h:67:12:
  ↳ note: in definition of macro '_Assert'
15 ( ( _e ) ? \
16 ^~
17 gmake[5]: *** [Makefile:4571: src/libscore_a-semaphore.o] Error 1

```

We need the rtems-bsp-builder to be run on a regular basis to catch these errors.

Tools are:

```

1 $ /opt/work/rtems/4.12/bin/arm-rtems4.12-gcc --version
2 arm-rtems4.12-gcc (GCC) 7.2.0 20170814 (RTEMS 4.12, RSB
  ↳ e6d0a8bae6d16eba605370ca11a5928b797820bb-modified, Newlib 2.5.0.20170818)

```

**Author:** Chris Johns 2017-09-18T22:55:24.000Z

- **Description** changed

```

1 Building with:
2
3 {{{
4 ....rtems.git/configure --target=arm-rtems4.12 --prefix=/opt/work/
  ↳ chris/rtems/kernel/4.12 --disable-networking --enable-
  ↳ rtemsbsp=beagleboneblack --enable-maintainer-mode --enable-rtems-debug

```

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```

5  }}}
6
7  results in an error:
8
9  {{{
10 gmake[5]: Entering directory '/opt/work/chris/rtems/kernel/bsps/
    ↳ beagleboneblack/arm-rtems4.12/c/beagleboneblack/cpukit/score'
11 arm-rtems4.12-gcc --pipe -DHAVE_CONFIG_H -I. -I../cpukit/../../../../
    ↳ beagleboneblack/lib/include -mcpu=cortex-a8 -O2 -g -ffunction-
    ↳ sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-
    ↳ function-declaration -Wstrict-prototypes -Wnested-externs -MT src/
    ↳ libscore_a-semaphore.o -MD -MP -MF src/.deps/libscore_a-semaphore.Tpo
    ↳ -c -o src/libscore_a-semaphore.o `test -f 'src/semaphore.c' || echo '/
    ↳ opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/score/'`src/
    ↳ semaphore.c
12 In file included from /opt/work/chris/rtems/kernel/rtems.git/c/src/../../
    ↳ cpukit/score/src/semaphore.c:21:0:
13 /opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/score/src/
    ↳ semaphore.c: In function '_Semaphore_Post':
14 /opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/score/src/
    ↳ semaphore.c:134:27: error: 'UINT_MAX' undeclared (first use in this
    ↳ function); did you mean 'UINT8_MAX'?
15 _Assert( sem->count < UINT_MAX );
16 ^
17 ../../cpukit/../../../../beagleboneblack/lib/include/rtems/score/assert.
    ↳ h:67:12: note: in definition of macro '_Assert'
18 ( ( _e ) ? \
19 ^~
20 /opt/work/chris/rtems/kernel/rtems.git/c/src/../../../../cpukit/score/src/
    ↳ semaphore.c:134:27: note: each undeclared identifier is reported only
    ↳ once for each function it appears in
21 _Assert( sem->count < UINT_MAX );
22 ^
23 ../../cpukit/../../../../beagleboneblack/lib/include/rtems/score/assert.
    ↳ h:67:12: note: in definition of macro '_Assert'
24 ( ( _e ) ? \
25 ^~
26 gmake[5]: *** [Makefile:4571: src/libscore_a-semaphore.o] Error 1
27 -
28 }}}
29
30 We need the `rtems-bsp-builder` to be run on a regular basis to catch
    ↳ these errors.
31 +
32 + Tools are:
33 +
34 + {{{
35 + $ /opt/work/rtems/4.12/bin/arm-rtems4.12-gcc --version
36 + arm-rtems4.12-gcc (GCC) 7.2.0 20170814 (RTEMS 4.12, RSB

```

(continues on next page)

(continued from previous page)

```

↪ e6d0a8bae6d16eba605370ca11a5928b797820bb-modified, Newlib 2.5.0.
↪ 20170818)
37 + }}}

```

**Author:** Trac Migrate 2017-09-19T08:57:49.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"9a50e32ded341ddbf434f8ed5813cd8acd3ed9e/rtems" 9a50e32/rtems]:

```

1 score: Include missing <limits.h>
2
3 Update #2132.
4 Close #3140.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.662 3139 - Remove old ISR parameter from Clock\_driver\_support\_install\_isr() and make it optional

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3139                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-09-18T06:02:15.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | bsp, priority::normal, resolution::fixed, tickettype::enhancement, version::5                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3139">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3139</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The old ISR is not used by the clock driver shell.

**Author:** Trac Migrate 2017-09-18T06:30:51.000Z

Original author: sebastian.huber

In [changeset:"f3b292365ffcd4c95128e568fa114ac55fb0ef6b/rtems" f3b29236/rtems]:

```
1 bsp: Clock_driver_support_install_isr()
2
3 Remove old ISR parameter since is not used by the clock driver shell.
4 Make an implementation optional.
5
6 Update #3139.
```

**Author:** Trac Migrate 2017-09-18T06:31:19.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"27515eceb2affcb97da9c8f9279425d7bbf0aff6/rtems-docs" 27515ec/rtems-docs]:

```
1 bsp-howto: Clock_driver_support_install_isr()
2
3 Close #3139.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.663 3137 - Accept PTHREAD\_PROCESS\_SHARED for POSIX condition variables

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3137                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-09-15T11:30:59.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3137">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3137</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Since we have only one process, sharing between processes is trivial.

**Author:** Trac Migrate 2017-09-18T05:00:39.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"c030edde3f76f23d6fe64df940a8ca059f0404e6/rtems" c030edd/rtems]:

```
1 posix: Allow PTHREAD_PROCESS_SHARED for condvar
2
3 Close #3137.
```

**Author:** Joel Sherrill 2017-09-18T05:02:17.000Z

Original author: sebastian.huber

Please check the docs for any impact.

**Author:** Trac Migrate 2017-09-18T05:06:08.000Z

Original author: sebastian.huber

I didn't find anything in the documentation.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.664 3136 - Use FIFO for file descriptor free list

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3136                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-09-15T05:39:25.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | filesystem, priority::normal, resolution::fixed, tickettype::enhancement                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3136">https://gitlab.rtems.org/rtems/rtems/-/issues/3136</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Currently, the free list of file descriptors is organized as a LIFO. In erroneous systems which use a file descriptor after a call to `close()`, this increases the likelihood that this error is undetected due to the prompt re-use of the file descriptor. The use of a FIFO has the benefit that free file descriptors remain on the free list as long as possible. This increases the time frame in which an invalid use of a closed file descriptor returns an error status.

**Author:** Trac Migrate 2017-09-15T09:01:44.000Z

Original author: sebastian.huber

In [changeset:"ac741625b0926a0329627beca52174edd69e587b/rtems"ac74162/rtems]:

```
1 libio: Use FIFO for iop free list
2
3 Update #3136.
```

**Author:** Trac Migrate 2017-09-15T10:50:09.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.665 3135 - Devel mailing list doesn't work and Git push impossible due to disk full

|                    |                                                                                                                                 |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3135                                                                                                                            |
| <b>State</b>       | closed                                                                                                                          |
| <b>Type</b>        | ISSUE                                                                                                                           |
| <b>Author</b>      | Trac Migrate                                                                                                                    |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                    |
| <b>Created</b>     | 2017-09-13T13:42:24.000Z                                                                                                        |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                        |
| <b>Milestone</b>   | 5.1                                                                                                                             |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3135">https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3135</a> |
| <b>Merges</b>      | 0                                                                                                                               |

Original author: sebastian.huber

I got this:



```

1 git push
2 Counting objects: 18, done.
3 Delta compression using up to 12 threads.
4 Compressing objects: 100% (17/17), done.
5 Writing objects: 100% (18/18), 1.68 KiB | 0 bytes/s, done.
6 Total 18 (delta 16), reused 0 (delta 0)
7 remote: error: file write error (No space left on device)
8 remote: fatal: unable to write sha1 file
9 error: remote unpack failed: unpack-objects abnormal exit
10 To ssh://dispatch.rtems.org/data/git/rtems.git
11 ! [remote rejected]      upstream -> master (unpacker error)
12 error: failed to push some refs to 'ssh://sebh@dispatch.rtems.org/data/git/rtems.
    ↪git'

```

We have on dispatch.rtems.org:

|   |                |      |      |       |          |            |
|---|----------------|------|------|-------|----------|------------|
| 1 | Filesystem     | Size | Used | Avail | Capacity | Mounted on |
| 2 | /dev/gpt/root0 | 88G  | 82G  | -600M | 101%     | /          |

**Author:** Amar Takhar 2017-09-13T23:14:10.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

This was fixed some time ago sorry about that. I am working on setting up realtime monitoring and Ansible it's a lot of work.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.666 3134 - Remove LIBIO\_FLAGS\_CREATE

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3134                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-09-13T08:49:10.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | filesystem, priority::normal, resolution::fixed, tickettype::enhancement                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3134">https://gitlab.rtems.org/rtems/rtems/-/issues/3134</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Remove unused LIBIO\_FLAGS\_CREATE flag.

**Author:** Trac Migrate 2017-09-14T05:10:53.000Z

Original author: sebastian.huber

The LIBIO\_FLAGS\_CREATE is actually used in one place via `rtems_libio_to_fcntl_flags()` for `fcntl(fd, F_GETFL)`. However, POSIX mandates that only access and status flags are returned.

<http://pubs.opengroup.org/onlinepubs/9699919799/functions/fcntl.html>

Status flags are defined here:

<http://pubs.opengroup.org/onlinepubs/9699919799/basedefs/fcntl.h.html>

**Author:** Trac Migrate 2017-09-15T08:58:34.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"5eb67f3ad04ee1cbacc38b474397a620d3064e1c/rtems"5eb67f3/rtems]:

```
1 libio: Remove LIBIO_FLAGS_CREATE
2
3 Close #3134.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.667 3133 - Remove rtems\_libio\_t::driver

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3133                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-09-13T07:16:36.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | filesystem, priority::normal, resolution::fixed, tickettype::enhancement                                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3133">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3133</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Remove unused rtems\_libio\_t::driver member.

**Author:** Trac Migrate 2017-09-18T05:00:02.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"8fa75d35cba6f060a41846e9c52b25c10347f801/rtems"8fa75d3/rtems]:

```

1 libio: Remove rtems_libio_t::driver
2
3 This member was apparently unused.
4
5 Close #3133.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.668 3130 - RTEMS Doxygen.in latex output does not build

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3130                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-09-10T22:01:32.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | doc, priority::high, resolution::fixed, tickettype::defect, version::5                                                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3130">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3130</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Doxygen latex output on sync.rtems.org does not build.

Does latex output build on any host? If so which hosts and what tool combination.

If it does not build we should consider defaulting the setting for latex output to “no”.

**Author:** Trac Migrate 2017-10-12T15:49:54.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In [changeset:”addeb53a640609a0d20b20991ee31952694fae64/rtems” addeb53a/rtems]:

```

1 doxygen: Set the Latex generation default to NO.
2
3 Closes #3130.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

## 4.2.1.669 3128 - RTEMS Tools corvar does not build on Windows.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3128                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-09-10T20:29:29.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::high, resolution::fixed, tickettype::defect, tool, version::5                                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3128">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3128</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The following error has appeared on Windows:

```

1 In file included from ../rtemstoolkit/elftoolchain/libelf/gelf.h:34:0,
2 from ../rtemstoolkit/rld-elf-types.h:29,
3 from ../rtemstoolkit/rld.h:72,
4 from ../rtemstoolkit/rld-process.h:31,
5 from ../tester/covoar/ObjdumpProcessor.h:16,
6 from ../tester/covoar/DesiredSymbols.h:18,
7 from ../tester/covoar/app_common.h:6,
8 from ../tester/covoar/app_common.cc:40:
9 ../rtemstoolkit/elftoolchain/libelf/libelf.h:33:23: fatal error: sys/queue.h: No
  ↳ such file or directory
10 #include <sys/queue.h>
11 ^
12 compilation terminated.
13
14 Waf: Leaving directory `D:/opt/rtems/rsb.git/rtems/build/rtH/rtems-tools.git/build
  ↳ `

```

**Author:** Trac Migrate 2017-09-10T21:15:44.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"cb0677b05c76927febcc1e58c33f7c2b008e5614/rtems-tools"cb0677b/rtems-tools]:

```

1 Add Windows includes so the rtemstoolkit builds.
2
3 Closes #3128.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.670 3126 - Accept PTHREAD\_PROCESS\_SHARED for POSIX barriers

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3126                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-09-08T13:42:18.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3126">https://gitlab.rtems.org/rtems/rtems/-/issues/3126</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Since we have only one process, sharing between processes is trivial.

**Author:** Trac Migrate 2017-09-18T05:00:27.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"8230a329d34b2298d80817e900c3bde2cdcbdea0/rtems" 8230a329/rtems]:

```
1 posix: Allow PTHREAD_PROCESS_SHARED for barriers
2
3 Close #3126.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.671 3125 - Accept PTHREAD\_PROCESS\_SHARED for POSIX mutexes

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3125                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-09-08T13:38:57.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::defect, tickettype::enhancement, version::5       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3125">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3125</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Since we have only one process, sharing between processes is trivial.

**Author:** Trac Migrate 2017-09-18T05:00:15.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"3b47ce73fa67efaeb1c92dc0129efa92f22d747c/rtems" 3b47ce7/rtems]:

```
1 posix: Allow PTHREAD_PROCESS_SHARED for mutexes
2
3 Close #3125.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.672 3124 - Ignore pshared attribute for POSIX semaphores

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3124                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-09-08T13:17:57.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3124">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3124</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Since we have only one process, sharing between processes is trivial.

**Author:** Trac Migrate 2017-09-14T05:01:20.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"18b32d7635efbd1345846f786a51281437bcfd54/rtems" 18b32d76/rtems]:

```

1 posix: Ignore pshared for semaphores
2
3 Since we have only one process, sharing between processes is trivial.
4
5 Close #3124.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed



## 4.2.1.673 3123 - GDB 8.0.1 is broken on FreeBSD 11

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3123                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-09-08T12:12:22.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::wontfix, tickettype::defect, tool::gdb, version::5                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3123">https://gitlab.rtems.org/rtems/rtems/-/issues/3123</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

I tried to add the patches for 7.11, but this results in:

```

1 -----
2 |--- gdb/gnulib/import/stddef.in.h.orig 2016-10-07 23:33:10.529558000 -0700
3 |+++ gdb/gnulib/import/stddef.in.h      2016-10-07 23:33:23.824676000 -0700
4 -----
5 Patching file gdb/gnulib/import/stddef.in.h using Plan A...
6 Hunk #1 failed at 82.
7 1 out of 1 hunks failed--saving rejects to gdb/gnulib/import/stddef.in.h.rej

```

**Author:** Trac Migrate 2017-09-08T12:15:33.000Z

Original author: sebastian.huber

The problem seems to be still in stddef.h:

```

1 /usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/usr/home/user/git-rtems-
  ↳ source-builder/rtems/build/tmp/sb-user/4.12/rtems-powerpc/opt/rtems-4.
  ↳ 12/include
2 -std=gnu++11 -I. -I../gdb-8.0.1/gdb -I../gdb-8.0.1/gdb/common -
  ↳ I../gdb-8.0.1/gdb/config -DLOCALEDIR="\\"/opt/rtems-4.12/share/
  ↳ locale\\" -DH
3 AVE_CONFIG_H -I../gdb-8.0.1/gdb/./include/opcode -I../gdb-8.0.1/
  ↳ gdb/./opcodes/.. -I../gdb-8.0.1/gdb/./readline/.. -I../gdb-8.
  ↳ 0.1/gdb/./
4 zlib -I../bfd -I../gdb-8.0.1/gdb/./bfd -I../gdb-8.0.1/gdb/./
  ↳ include -I../libdecnumber -I../gdb-8.0.1/gdb/./libdecnumber -I../
  ↳ ../gdb-8.0.1/
5 gdb/gnulib/import -Ibuild-gnulib/import -DTUI=1 -I/usr/home/user/git-
  ↳ rtems-source-builder/rtems/build/tmp/sb-user/4.12/rtems-powerpc/opt/
  ↳ rtems-4.12/
6 include -I/usr/local/include/python2.7 -I/usr/local/include/python2.7 -
  ↳ Wall -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -

```

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```

7 ↪Wno-switch -
  ↪Wno-char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-
  ↪but-set-variable -Wno-sign-compare -Wno-narrowing -Wformat-nonliteral
  ↪-c -o ser-u
8 nix.o -MT ser-unix.o -MMD -MP -MF .deps/ser-unix.Tpo ../../gdb-8.0.1/
  ↪gdb/ser-unix.c
9 c++: warning: treating 'c' input as 'c++' when in C++ mode, this
  ↪behavior is deprecated
10 c++: warning: treating 'c' input as 'c++' when in C++ mode, this
  ↪behavior is deprecated
11 c++: warningc++: warning: treating 'c' input as 'c++' when in C++ mode,
  ↪this behavior is deprecated
12 : treating 'c' input as 'c++' when in C++ mode, this behavior is
  ↪deprecated
13 c++: warning: treating 'c' input as 'c++' when in C++ mode, this
  ↪behavior is deprecated
14 c++: warning: treating 'c' input as 'c++' when in C++ mode, this
  ↪behavior is deprecatedc++: warning: treating 'c' input as 'c++' when
  ↪in C++ mode, this
15 behavior is deprecated
16 c++
17 : warning: treating 'c' input as 'c++' when in C++ mode, this behavior
  ↪is deprecated
18 warning: unknown warning option '-Wunused-but-set-parameter'; did you
  ↪mean '-Wunused-parameter'? [-Wunknown-warning-option]
19 warning: unknown warning option '-Wunused-but-set-variable'; did you
  ↪mean '-Wunused-const-variable'? [-Wunknown-warning-option]
20 warning: unknown warning option '-Wunused-but-set-parameter'; did you
  ↪mean '-Wunused-parameter'? [-Wunknown-warning-option]
21 warning: unknown warning option '-Wunused-but-set-parameter'; did you
  ↪mean '-Wunused-parameter'? [-Wunknown-warning-option]
22 warning: unknown warning option '-Wunused-but-set-variable'; did you
  ↪mean '-Wunused-const-variable'? [-Wunknown-warning-option]
23 warning: unknown warning option '-Wunused-but-set-parameter'; did you
  ↪mean '-Wunused-parameter'? [-Wunknown-warning-option]warning: unknown
  ↪warning opt
24 ion '-Wunused-but-set-variable'; did you mean '-Wunused-const-variable'?
  ↪ [-Wunknown-warning-option]
25
26 warning: unknown warning option '-Wunused-but-set-parameter'; did you
  ↪mean '-Wunused-parameter'? [-Wunknown-warning-option]
27 warning: unknown warning option '-Wunused-but-set-variable'; did you
  ↪mean '-Wunused-const-variable'? [-Wunknown-warning-option]
28 warning: unknown warning option '-Wunused-but-set-variable'; did you
  ↪mean '-Wunused-const-variable'? [-Wunknown-warning-option]
29 warningwarning: unknown warning option '-Wunused-but-set-parameter';
  ↪did you mean '-Wunused-parameter'? [-Wunknown-warning-option]
30 : unknown warning option '-Wunused-but-set-parameter'; did you mean '-
  ↪Wunused-parameter'? [-Wunknown-warning-option]

```

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```

31 warning: unknown warning option '-Wunused-but-set-parameter'; did you
    ↪ mean '-Wunused-parameter'? [-Wunknown-warning-option]
32 warning: unknown warning option '-Wunused-but-set-variable'; did you
    ↪ mean '-Wunused-const-variable'? [-Wunknown-warning-option]warning:
    ↪ unknown warning
33 option '-Wunused-but-set-variable'; did you mean '-Wunused-const-
    ↪ variable'? [-Wunknown-warning-option]
34 warning
35 : unknown warning option '-Wunused-but-set-variable'; did you mean '-
    ↪ Wunused-const-variable'? [-Wunknown-warning-option]
36 In file included from ../../gdb-8.0.1/gdb/rs6000-tdep.c:20:
37 In file included from ../../gdb-8.0.1/gdb/defs.h:28:
38 In file included from ../../gdb-8.0.1/gdb/common/common-defs.h:52:
39 In file included from build-gnulib/import/stdio.h:53:
40 build-gnulib/import/stddef.h:106:3: error: typedef redefinition with
    ↪ different types ('union max_align_t' vs 'long double')
41 } max_align_t;
42 ^
43 /usr/include/c++/v1/stddef.h:57:21: note: previous definition is here
44 typedef long double max_align_t;

```

**Author:** Joel Sherrill 2017-10-12T02:49:38.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-10-12T05:00:35.000Z

Original author: sebastian.huber

- **Resolution** set to ~"wontfix"
- **Status** changed from *assigned* to *closed*

It works with FreeBSD 11.1. This is good enough for me.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.674 3121 - clock() implementation in Newlib is broken

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3121                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-09-06T06:15:48.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::newlib                                                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3121">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3121</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Newlib uses `_times_r()` in `clock()`. The problem is that the `_times_r()` clock frequency is defined by `sysconf(_SC_CLK_TCK)`. The clock frequency of `clock()` is the constant `CLOCKS_PER_SEC`.

FreeBSD uses `getrusage()` for `clock()`.

**Author:** Trac Migrate 2017-09-07T05:40:56.000Z

Original author: sebastian.huber

In [changeset:"bdbf1ffa6e81d75ab3ab7adc11e35b1ee1670c29/rtems" bdbf1ffa/rtems]:

```

1 Implement clock()
2
3 Newlib uses _times_r() in clock(). The problem is that the _times_r()
4 clock frequency is defined by sysconf(_SC_CLK_TCK). The clock frequency
5 of clock() is the constant CLOCKS_PER_SEC.
6
7 FreeBSD uses getrusage() for clock(). Since RTEMS has only one process,
8 the implementation can be simplified.
9
10 Update #3121.
```

**Author:** Trac Migrate 2017-09-07T05:43:57.000Z

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"4.12.0"
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*

**Author:** Trac Migrate 2017-09-15T11:06:07.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *accepted* to *closed*

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.675 3116 - POSIX: Make sem\_t self-contained

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3116                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-08-24T09:46:54.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3116">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3116</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Change the POSIX semaphore into a self-contained object using <sys/lock.h>, e.g.

```

1 typedef struct {
2 struct _Semaphore_Control _sem;
3 } sem_t;

```

**Author:** Trac Migrate 2017-09-18T05:07:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %”Indefinite” to %”4.12.0”
- **Status** changed from *assigned* to *accepted*

**Author:** Trac Migrate 2017-10-05T12:34:58.000Z

Original author: sebastian.huber

In [changeset:”76d9db31feb7835c66f926d280ea717b7933e152/rtems-source-builder” 76d9db3/rtems-source-builder]:

```

1 4.12: Update to Newlib 2.5.0.20170922
2
3 The time_t is now a 64-bit signed integer.
4
5 This update includes a patch to introduce the self-contained POSIX
6 synchronization objects.
7
8 Update #2514.
9 Update #3111.
10 Update #3112.
11 Update #3113.
12 Update #3114.
13 Update #3115.
14 Update #3116.

```

**Author:** Trac Migrate 2017-10-05T12:35:53.000Z

Original author: sebastian.huber

In [changeset:"e46a075d35fa821b9d5f841032149d74e828be2b/rtems" e46a075/rtems]:

```

1 Enforce compatible Newlib version
2
3 This Newlib check ensures that we have a 64-bit time_t and
4 self-contained POSIX synchronization objects.
5
6 Update #2514.
7 Update #3111.
8 Update #3112.
9 Update #3113.
10 Update #3114.
11 Update #3115.
12 Update #3116.

```

**Author:** Trac Migrate 2017-10-05T12:36:18.000Z

Original author: sebastian.huber

In [changeset:"c090db7405b72ce6d0b726c0a39fb1c1aebab7ea/rtems" c090db7/rtems]:

```

1 posix: Implement self-contained POSIX semaphores
2
3 For semaphore object pointer and object validation see
4 POSIX_SEMAPHORE_VALIDATE_OBJECT().
5
6 Destruction or close of a busy semaphore returns an error status. The
7 object is not flushed.

```

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```

8
9 POSIX semaphores are now available in all configurations and no longer
10 depend on --enable-posix.
11

```

```

12 Update #2514.

```

```

13 Update #3116.

```

**Author:** Trac Migrate 2017-10-09T06:05:48.000Z

Original author: sebastian.huber

In [changeset:"d8f7bdc003f560e8b3b002e18a56c18692d737d8/rtems-docs"  
d8f7bdc/rtems-docs]:

```

1 c-user: Add obsolete configuration options section
2

```

```

3 Update #2493.

```

```

4 Update #3112.

```

```

5 Update #3113.

```

```

6 Update #3114.

```

```

7 Update #3115.

```

```

8 Update #3116.

```

**Author:** Trac Migrate 2017-10-12T05:15:28.000Z

Original author: sebastian.huber

In [changeset:"64564df81045dfe31fb0369bc26566e24a36fa4b/rtems-docs"  
64564df/rtems-docs]:

```

1 c-user: CONFIGURE_MAXIMUM_POSIX_SEMAPHORES
2

```

```

3 This configuration is not obsolete since it is still used for named
4 semaphores.
5

```

```

6 Update #3116.

```

**Author:** Trac Migrate 2017-10-12T05:16:16.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"9c0cefbfa5eb426ff26954066b5d1f786754a538/rtems"  
9c0cefb/rtems]:

```

1 confdefs: Add warnings for obsolete options
2
3 Update #2674.
4 Close #3112.
5 Close #3113.
6 Close #3114.
7 Close #3115.
8 Close #3116.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.676 3103 - rtems-tools on CentOS 7 Build Failure

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3103                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-08-19T17:07:50.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool, version::5                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3103">https://gitlab.rtems.org/rtems/rtems/-/issues/3103</a> |
| <b>Merges</b>      | 0                                                                                                                   |

A build failure for rtems-tools on the master has been reported on CentOS 7. This is my notes as I try to reproduce it.

```

[joel@localhost rtems-tools]$ ./waf configure Setting top to : /home/joel/rtems-work/rtems-
tools Setting out to : /home/joel/rtems-work/rtems-tools/build Version : 4.12.78bbe4c1a31d
(4.12) Checking for program 'python' : /usr/bin/python Checking for python version >= 2.6.6
: 2.7.5 Checking for 'gcc' (C compiler) : /usr/bin/gcc Checking for 'g++' (C++ compiler) :
/usr/bin/g++ Checking for header alloca.h : yes Checking for header fcntl.h : yes Checking
for header process.h : not found Checking for header stdlib.h : yes Checking for header string.h
: yes Checking for header strings.h : yes Checking for header sys/file.h : yes Checking for
header sys/stat.h : yes Checking for header sys/time.h : yes Checking for header sys/types.h
: yes Checking for header sys/wait.h : yes Checking for header unistd.h : yes Checking for
header vfork.h : not found Checking for function getrusage : yes Checking for program 'm4'
: /usr/bin/m4 Checking for header sys/wait.h : yes Checking for function kill : yes Checking
for 'gcc' (C compiler) : /usr/bin/gcc Checking for 'g++' (C++ compiler) : /usr/bin/g++
Checking for 'g++' (C++ compiler) : /usr/bin/g++ Checking for function open64 :
not found Checking for function stat64 : not found 'configure' finished successfully (0.786s)
=====

```



```
[joel@localhost rtems-tools]$ ./waf -j 1 -verbose Waf: Entering directory `/home/joel/rtems-work/rtems-tools/build' [ 88/151] Compiling rtemstoolkit/rld-process.cpp 11:58:16 runner ['/usr/bin/g++', '-pipe', '-g', '-O2', '-Wall', '-Wextra', '-pedantic', '-I./rtemstoolkit', '-I./rtemstoolkit/elftoolchain/libelf', '-I./rtemstoolkit/elftoolchain/libelf', '-I./rtemstoolkit/elftoolchain/common', '-I./rtemstoolkit/elftoolchain/common', '-I./rtemstoolkit/libiberty', '-I./rtemstoolkit/libiberty', '-DHAVE_CONFIG_H=1', '-DRTEMS_VERSION="4.12"', '-DRTEMS_RELEASE="4.12.78bbe4c1a31d"', '-DFASTLZ_LEVEL=1', '-I./rtemstoolkit/rld-process.cpp', '-c', '-o/home/joel/rtems-work/rtems-tools/build/rtemstoolkit/rld-process.cpp.7.o'] In file included from ./rtemstoolkit/libiberty/libiberty.h:42:0, from ./rtemstoolkit/rld-process.cpp:64: ./rtemstoolkit/libiberty/ansidecl.h:169:64: error: new declaration 'char* basename(const char*)'
```

```
define ATTRIBUTE_NONNULL(m) __attribute__((__nonnull__(m)))
```

```
^ ./rtemstoolkit/libiberty/libiberty.h:112:64: note: in expansion of macro 'ATTRIBUTE_NONNULL'extern char basename (const char *) ATTRIBUTE_RETURNS_NONNULL
ATTRIBUTE_NONNULL(1); ^ In file included from ./rtemstoolkit/rld-process.cpp:24:0:
/usr/include/string.h:599:26: error: ambiguates old declaration |md_0_8216|const char
basename(const char*)'extern "C++" const char basename (const char *__filename) ^ In file
included from ./rtemstoolkit/libiberty/libiberty.h:42:0, from ./rtemstoolkit/rld-process.cpp:64:
./rtemstoolkit/libiberty/ansidecl.h:169:64: error: declaration of |md_0_8216|int
vasprintf(char*, const char*, __va_list_tag*)' has a different exception specifier
```

```
define ATTRIBUTE_NONNULL(m) __attribute__((__nonnull__(m)))
```

```
^ ./rtemstoolkit/libiberty/ansidecl.h:198:80: note: in expansion of macro 'ATTRIBUTE_NONNULL'
```

```
define ATTRIBUTE_PRINTF(m, n) __attribute__((__format__(__printf__, m, n))) ATTRIBUTE_NONNULL(m)
```

```
^ ./rtemstoolkit/libiberty/libiberty.h:651:55: note: in expansion of macro 'ATTRIBUTE_PRINTF'extern int vasprintf (char , const char *, va_list)
ATTRIBUTE_PRINTF(2,0); ^ In file included from ./rtemstoolkit/rld-process.cpp:23:0:
/usr/include/stdio.h:399:12: error: from previous declaration |md_0_8216|int
vasprintf(char, const char*, __va_list_tag*) throw ()'extern int vasprintf (char **__restrict
__ptr, const char *__restrict __f, ^
```

```
Waf: Leaving directory `/home/joel/rtems-work/rtems-tools/build' Build failed -> task in 'rld'
failed with exit status 1: {task 23048432: cxx rld-process.cpp -> rld-process.cpp.7.o}
['/usr/bin/g++', '-pipe', '-g', '-O2', '-Wall', '-Wextra', '-pedantic', '-I./rtemstoolkit', '-I./rtemstoolkit/elftoolchain/libelf', '-I./rtemstoolkit/elftoolchain/libelf', '-I./rtemstoolkit/elftoolchain/common', '-I./rtemstoolkit/elftoolchain/common', '-I./rtemstoolkit/libiberty', '-I./rtemstoolkit/libiberty', '-DHAVE_CONFIG_H=1', '-DRTEMS_VERSION="4.12"', '-DRTEMS_RELEASE="4.12.78bbe4c1a31d"', '-DFASTLZ_LEVEL=1', '-I./rtemstoolkit/rld-process.cpp', '-c', '-o/home/joel/rtems-work/rtems-tools/build/rtemstoolkit/rld-process.cpp.7.o']
```

Looking down into libiberty.h, I picked on basename()

/\* HAVE\_DECL\_\* is a three-state macro: undefined, 0 or 1. If it is undefined, we haven't run the autoconf check so provide the declaration without arguments. If it is 0, we checked and

failed to find the declaration so provide a fully prototyped one. If it is 1, we found it so don't provide any declaration at all. \*/

```
if !HAVE_DECL_BASENAME
```

```
if defined (__GNU_LIBRARY__) || defined (__linux__) \
```

```
|| defined (__FreeBSD__) || defined (__OpenBSD__) || defined (__NetBSD__) \ || defined
(__CYGWIN__) || defined (__CYGWIN32__) || defined (__MINGW32__) \ || defined (__Drag-
onFly__) || defined (HAVE_DECL_BASENAME) extern char *basename (const char *) AT-
TRIBUTE_RETURNS_NONNULL ATTRIBUTE_NONNULL(1);
```

```
else
```

```
/* Do not allow basename to be used if there is no prototype seen. We either need to use the
above prototype or have one from autoconf which would result in HAVE_DECL_BASENAME
being set. */
```

```
define basename basename_cannot_be_used_without_a_prototype
```

```
endif
```

```
endif
```

```
ifndef basename
```

```
/* Return the file name within directory of FILENAME. We don't declare the function if the
'basename' macro is available (defined in <libgen.h>) which makes the XPG version of this
function available. */
```

```
ifdef __CORRECT_ISO_CPP_STRING_H_PROTO
```

```
extern "C++" char *basename (char * __filename) __THROW __asm ("basename") __nonnull
((1)); extern "C++" const char *basename (const char * __filename) __THROW __asm ("base-
name") __nonnull ((1));
```

```
else
```

```
extern char *basename (const char * __filename) __THROW __nonnull ((1));
```

```
endif
```

```
endif
```

```
endif
```

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-08-20T07:22:34.000Z |
|------------------------------------------------------|

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"f2bb43913b129209934dcbf1db4eb0beea8275e3/rtems-tools" f2bb439/rtems-tools]:

```

1 rtemstoolkit/libiberty: Fix broken configure detection.
2
3 The file libiberty.h requires some configure macros to control some
4 ↪ parts
5 ↪ and these are not provided so the file did not match what was needed.
6 ↪ Hard
7 code the result and remove the need for the macros. The related calls
8 are not provided in our libiberty usage and not needed.
9
10 Closes #3103.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.677 3102 - rtems-exeinfo does not decode ARM static constructors.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3102                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-08-16T08:09:40.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool, version::5                                                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3102">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3102</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The sections for ARM are not the same as other architectures.

**Author:** Chris Johns 2017-08-16T08:09:52.000Z

- **Status** changed from *assigned* to *accepted*

**Author:** Trac Migrate 2017-08-16T08:18:49.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"78bbe4c1a31dc62c3a9bee919645c0aa8781709b/rtems-tools" 78bbe4c/rtems-tools]:

```

1 linkers/exe-info Support ARM static constructors.
2
3 Note, ARM destructors are registered at runtime and currently not
4 easily found.
5
6 Update libiberty to get a newer demangler.
7
8 Closes #3102.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.678 3101 - Add I2C Drivers for LM25066A, TMP112, ADS1113 and ADS1115

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3101                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2017-08-16T03:53:18.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | cpukit, priority::normal, resolution::fixed, rtems::score, tickettype::task, version::5                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3101">https://gitlab.rtems.org/rtems/rtems/-/issues/3101</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Add drivers for:

1. LM25066A
2. TMP112
3. ADS1113
4. ADS1115

**Author:** Chris Johns 2017-08-16T03:53:32.000Z

- **Owner** set to [joel.sherrill@oarcorp.com](mailto:joel.sherrill@oarcorp.com)

**Author:** Chris Johns 2017-08-16T03:53:44.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

---

**Author:** Chris Johns    2017-08-16T03:55:21.000Z

---

- **Status** changed from *assigned* to *accepted*

---

**Author:** Chris Johns    2017-08-21T23:21:46.000Z

---

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

---

**Author:** Trac Migrate    2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.679 3100 - Add Xilinx AXI I2C driver

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3100                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2017-08-16T03:50:39.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:arm, priority::normal, resolution::fixed, rtems::score, ticket-type::task, version::5                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3100">https://gitlab.rtems.org/rtems/rtems/-/issues/3100</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Add a Xilinx AXI I2C driver.

---

**Author:** Chris Johns    2017-08-16T03:55:09.000Z

---

- **Status** changed from *assigned* to *accepted*

---

**Author:** Chris Johns    2017-08-21T23:22:15.000Z

---

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

---

**Author:** Trac Migrate    2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.680 3099 - Add RTEMS FDT wrapper and shell command to libmisc

|                    |                                                                                                                                 |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3099                                                                                                                            |
| <b>State</b>       | closed                                                                                                                          |
| <b>Type</b>        | ISSUE                                                                                                                           |
| <b>Author</b>      | Chris Johns                                                                                                                     |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                     |
| <b>Created</b>     | 2017-08-16T03:49:39.000Z                                                                                                        |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                        |
| <b>Milestone</b>   | 5.1                                                                                                                             |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::task, version::5                                                               |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3099">https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/3099</a> |
| <b>Merges</b>      | 0                                                                                                                               |

Provide a wrapper to the FDT library for use on RTEMS. The wrapper provides a simplified interface suitable for applications. The shell command provides access to registered FDT blobs so a user can search the tree like a file system and optionally read and write from device addresses.

**Author:** Chris Johns 2017-08-16T03:54:57.000Z

- **Status** changed from *assigned* to *accepted*

**Author:** Trac Migrate 2017-08-20T01:12:55.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"6b7efdb2ed77760e3c68c5cf450a9620a1cd6562/rtems" 6b7efdb2/rtems]:

```

1 libmisc/rtems-fdt: Add RTEMS FDT wrapper and shell command to libmisc.
2
3 - Provide application support for handling FDT blobs in RTEMS. This
4 is useful when interfacing FPGA fabrics.
5 - Provide a shell command to list a blob as well as provide read
6 and write access to addresses in the FTB.
7
8 Closes #3099.
```

**Author:** Trac Migrate 2017-08-23T23:40:39.000Z

In [changeset:"602b184fd0504af8d790546992bf4176f02ccb12/rtems" 602b184f/rtems]:

```

1 libmisc/rtems-fdt: Add libmisc/rtems-fdt to the cpukit wrapup.
2
3 Updates #3099.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.681 3091 - Core Dump in powerpc-rtems4.12-ld

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3091                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-08-07T23:55:46.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool, version::5                                                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3091">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3091</a> |
| <b>Merges</b>      | 0                                                                                                                             |

This appears to have been introduced by the new binutils. Impacts qemu prep and qemu prep-alivec BSPs.

```
gmake[8]: Entering directory `./data/home/joel/rtems-work/rtems-testing/rtems/build-
powerpc-qemu prep-rtems/powerpc-rtems4.12/c/qemu prep/lib/libbsp/powerpc/motorola_powerpc/qemu_fal
powerpc-rtems4.12-ld -o qemu_fakerom.bin qemu_fakerom.o qemu_fakeres.o -oformat
binary -nostdlib -Ttext 0xffff0000 -section-start=.romentry=0xffffffff gmake[8]: ***
[qemu_fakerom.bin] Segmentation fault
```

- [0001-Fix-Binutils-2.29-PR21884.patch](#)

**Author:** Joel Sherrill 2017-08-07T23:55:58.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-08-08T11:44:01.000Z

Yes, I will have a look at this once GCC 7.2 is out.

**Author:** Trac Migrate 2017-08-10T08:12:52.000Z

- **Attachment** [0001-Fix-Binutils-2.29-PR21884.patch](#) added

**Author:** Trac Migrate 2017-08-10T08:18:26.000Z

- **Resolution** set to ~”fixed”

- **Status** changed from *assigned* to *closed*

In [changeset:"7208ab69e1fc068bdf23edc51e862db2f2a6a189/rtems-source-builder" 7208ab6/rtems-source-builder]:

```
1 4.12: Fix for Binutils PR21884
2
3 See https://sourceware.org/bugzilla/show_bug.cgi?id=21884.
4
5 Close #3091.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.682 3084 - Makefile recipe override warning has returned

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3084                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-07-27T23:14:42.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::build, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3084">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3084</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The makefile overrides recipe warnings had disappeared with Chris' rework to improve parallelism. Unfortunately, one Makefile has had the warning return. To reproduce, complete a build with all tests enabled, then just type `make >/dev/null` at the top of the build tree

[joel@rtbf64c rtems-work]\$ ./build\_bsp sparc erc32 Using rtems for RTEMS source

```
real 5m4.247s user 5m58.188s sys 1m34.959s 0 [joel@rtbf64c rtems-work]$ cd b-erc32/
[joel@rtbf64c b-erc32]$ make >/dev/null Makefile:653: warning: overriding recipe for target `spprofilng01'
Makefile:653: warning: ignoring old recipe for target `spprofilng01'
```

**Author:** Joel Sherrill 2017-07-27T23:14:53.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-10-12T01:19:16.000Z

- **Resolution** set to ~"fixed"



- **Status** changed from *assigned* to *closed*

In [changeset:"871c23caba27ee8d38fd18260d42878755c1f4d5/rtems"871c23c/rtems]:

```
1 Fix sprofilng01 overriding recipe warning
2
3 Closes #3084.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.683 3080 - Infinite loop in SPARC rtems\_invalidate\_multiple\_instruction\_lines()

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3080                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-07-19T13:54:07.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:sparc, bsp, priority::normal, resolution::fixed, tickettype::defect, version::5                                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3080">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3080</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

A

define CPU\_INSTRUCTION\_CACHE\_ALIGNMENT 0

is not a good idea in case the default range functions are used.

**Author:** Trac Migrate 2017-07-19T13:56:33.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:"7ed8ad0adbb2b6a6e844acd422765cecc1e35957/rtems"7ed8ad0/rtems]:

```
1 bsps/sparc: Fix cache support
2
```

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```

3 Fix infinite loop in rtems_invalidate_multiple_instruction_lines().
4 Implement this function.
5
6 Close #3080.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.684 3079 - Ada tests do not build

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3079                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-07-19T11:32:52.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::build, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3079">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3079</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

A “make” in the top level build directory does not build the Ada tests (used to work some weeks ago). A “make” in ./sparc-rtems4.12/c/erc32/ada-tests for example works.

The configuration step seems to work:

```

1 configure: configuring in ada-tests
2 configure: running /bin/sh './../rtems/c/src/ada-tests/configure' '--
  ↳prefix=/home/joel/rtems-4.11-work/bsp-install' '--host=sparc-rtems4.12' '--
  ↳build=x86_64-pc-linux-gnu' '--target=sparc-rtems4.12' '--enable-smp' '--disable-
  ↳profiling' '--disable-multiprocessing' '--enable-rtems-debug' '--enable-cxx' '--
  ↳disable-rdbg' '--enable-maintainer-mode' '--enable-tests' '--enable-networking'
  ↳'--enable-posix' '--disable-itron' '--disable-deprecated' '--enable-ada' '--
  ↳enable-expada' 'SIMSPARC_FAST_IDLE=1' '--with-target-subdir=sparc-rtems4.12' '--
  ↳exec-prefix=/home/joel/rtems-4.11-work/bsp-install/sparc-rtems4.12' '--
  ↳includedir=/home/joel/rtems-4.11-work/bsp-install/sparc-rtems4.12/include'
  ↳'build_alias=x86_64-pc-linux-gnu' 'host_alias=sparc-rtems4.12' 'target_
  ↳alias=sparc-rtems4.12' '--with-project-root=../..' '--with-project-top=../..'
  ↳'RTEMS_BSP=erc32' 'RTEMS_CPU_MODEL=erc32' 'RTEMS_BSP_FAMILY=erc32' 'CFLAGS=-
  ↳mcpu=cypress -O2 -g -ffunction-sections -fdata-sections -Wall -Wmissing-

```

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```

↪ prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs
↪ ' --enable-rtems-root=../' --enable-project-root=../../erc32' '--
↪ with-project-top=../../' --enable-rtemsbsp=erc32' --cache-file=/dev/
↪ null --srcdir=../../rtems/c/src/ada-tests
3 configure: loading site script /usr/share/site/x86_64-unknown-linux-gnu
4 checking for gmake... gmake

```

However:

```

1 gmake[4]: Entering directory '/scratch/git-rtems-testing/rtems/build-sparc-erc32-
  ↪ rtems/sparc-rtems4.12/c/erc32/ada-tests'
2 gmake[4]: Nothing to be done for 'all-am'.

```

**Author:** Joel Sherrill 2017-10-12T00:18:40.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"4.10.3"
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Is this fixed now?

**Author:** Trac Migrate 2017-10-12T05:29:11.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.10.3" to %"4.12.0"
- **Owner** set to @chrisj

This is a 4.12 problem and related to recent changes in the build system.

**Author:** Chris Johns 2017-10-12T05:39:24.000Z

Original author: sebastian.huber

- **Status** changed from *assigned* to *new*

No point assigning this to me, I do not have an Ada compiler and when I last looked it did not build easily on my hosts. I have no ability to test any of this.

I suggest you change SUBDIRS to \_SUBDIRS and see what happens. SUBDIRS is owned by automake and our build system circumvented automake long ago.

**Author:** Trac Migrate 2017-10-12T08:52:56.000Z

Original author: sebastian.huber

Thanks, this \_SUBDIR hint was what I needed.

**Author:** Trac Migrate 2017-10-12T08:55:52.000Z

Original author: sebastian.huber

In [changeset:"b3874e1531831dc587705e52f74f1f1621d76e45/rtems" b3874e1/rtems]:

```
1 ada-tests: Use _SUBDIRS instead of SUBDIRS
2
3 Update #3079.
```

**Author:** Trac Migrate 2017-10-12T08:56:07.000Z

Original author: sebastian.huber

- **Owner** set to Sebastian Huber <[sebastian.huber@embedded-brains.de](mailto:sebastian.huber@embedded-brains.de)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"ee537ea3dd964d4de3565a36b4857af31fb5a3f4/rtems" ee537ea/rtems]:

```
1 ada-tests: Move to testsuites/ada
2
3 This solves a build dependency issue, e.g. building tests before
4 librtemsbsp.a exists.
5
6 Close #3079.
```

**Author:** Chris Johns 2017-10-12T15:53:17.000Z

Original author: sebastian.huber

Replying to [Sebastian Huber](#):

Thanks, this \_SUBDIR hint was what I needed.

Awesome change. Thank you.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.685 3077 - SPARC: Add lazy floating point context switching

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3077                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-07-18T12:52:02.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:sparc, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3077">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3077</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The uniprocessor floating point context switching is unsafe, e.g. it is possible to silently corrupt the floating point context. The SMP floating point switching is safe, however, it doesn't use a deferred switch. Implement lazy floating point switching in uniprocessor configurations. This fixes test case spcontext01.

**Author:** Trac Migrate 2017-07-25T09:44:32.000Z

Original author: sebastian.huber

In [changeset:"b2e1bded07232290f0edcb19e03b18dc4e8bce67/rtems" b2e1bded/rtems]:

```
1 score: Add optional _CPU_Context_Destroy()
2
3 Update #3077.
```

**Author:** Trac Migrate 2017-07-25T09:44:44.000Z

Original author: sebastian.huber

In [changeset:"a400d06f48b12e5484af7a549feaea9154193d4c/rtems" a400d06f/rtems]:

```
1 sparc: Rename SPARC_USE_SAFE_FP_SUPPORT
2
3 Rename SPARC_USE_SAFE_FP_SUPPORT in SPARC_USE_SYNCHRONOUS_FP_SWITCH.
4 Update comment.
5
6 Update #3077.
```

**Author:** Trac Migrate 2017-07-25T09:44:55.000Z

Original author: sebastian.huber

In [changeset:"600d88dfd7c245a4e97d297bd208d568f8bae16b/rtems" 600d88d/rtems]:

```

1 INTERNAL_ERROR_ILLEGAL_USE_OF_FLOATING_POINT_UNIT
2
3 Add new fatal error INTERNAL_ERROR_ILLEGAL_USE_OF_FLOATING_POINT_UNIT.
4
5 Update #3077.
```

**Author:** Trac Migrate 2017-07-25T09:45:08.000Z

Original author: sebastian.huber

In [changeset:"146adb1edfaa0271ee0df5180a1f64d54e6e860d/rtems" 146adb1/rtems]:

```

1 sparc: Add lazy floating point switch
2
3 The SPARC ABI is a bit special with respect to the floating point_
  ↳ context.
4 The complete floating point context is volatile. Thus, from an ABI_
  ↳ point
5 of view nothing needs to be saved and restored during a context switch.
6 Instead the floating point context must be saved and restored during
7 interrupt processing. Historically, the deferred floating point switch_
  ↳ was
8 used for SPARC and the complete floating point context is saved and
9 restored during a context switch to the new floating point unit owner.
10 This is a bit dangerous since post-switch actions (e.g. signal handlers)
11 and context switch extensions may silently corrupt the floating point
12 context.
13
14 The floating point unit is disabled for interrupt handlers. Thus, in_
  ↳ case
15 an interrupt handler uses the floating point unit then this will result_
  ↳ in a
16 trap (INTERNAL_ERROR_ILLEGAL_USE_OF_FLOATING_POINT_UNIT).
17
18 In uniprocessor configurations, a lazy floating point context switch is
19 used. In case an active floating point thread is interrupted (PSR[EF]_
  ↳ == 1)
20 and a thread dispatch is carried out, then this thread is registered as_
  ↳ the
21 floating point owner. When a floating point owner is present during a
22 context switch, the floating point unit is disabled for the heir thread
23 (PSR[EF] == 0). The floating point disabled trap checks that the use_
  ↳ of the
24 floating point unit is allowed and saves/restores the floating point_
  ↳ context
```

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25 on demand.  
 26  
 27 Update #3077.

**Author:** Trac Migrate 2017-08-24T06:31:01.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Tested using the SIS.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.686 3076 - Test suite failures due to floating point usage

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3076                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-07-18T11:24:53.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::testing, tickettype::defect, version::5                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3076">https://gitlab.rtems.org/rtems/rtems/-/issues/3076</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Several tests fail due to an unaccounted use of the floating point unit:

BLOCK 6 BLOCK 14 CONSTRUCTOR/DESTRUCTOR CRYPT 1 DUMPBUF 1 FLASHDISK 1 FSB-DPART 1 FSDOSFSFORMAT 1 FSDOSFSNAME 1 FSERROR DOSFS FSERROR JFFS2 FSERROR MOUNTED IMFS FSERROR RFS FSERROR ROOT IMFS FSPERMISSION JFFS2 FSPERMISSION MOUNTED IMFS FSPERMISSION RFS FSPERMISSION ROOT IMFS FSRENAME MOUNTED IMFS FTP 1 libdl (RTL) 1 libdl (RTL) 4 libdl (RTL) 5 MGHTTTPD 1 MONITOR 2 MOUSE 1 NETWORKING 1 PSXFILE 1 PSXIMFS 1 PSXIMFS 2 PSXPASSWD 2 PSXPIPE 1 PSXSTAT SMP 1 SMP 2 SMP 3 SMP 8 SMP 9 SMPAFFINITY 1 SMPSCHEUDLER 1 SPERROR 1 SPERROR 2 SPERROR 3 SYSCALL 1 TAR 1 TERMIO 3 TERMIO 4 TERMIO 5 TERMIO 6 TERMIO 7

**Author:** Trac Migrate 2017-07-18T12:25:15.000Z

Original author: sebastian.huber

In [changeset:"08586e5b947162ea4d56975313e013bb94f997d8/rtems" 08586e5/rtems]:

```
1 ftpd: Use floating point tasks
2
3 Update #3076.
```

**Author:** Trac Migrate 2017-07-18T12:25:28.000Z

Original author: sebastian.huber

In [changeset:"533ac1126c775695ef84632ebab44e09747c7b5d/rtems" 533ac112/rtems]:

```
1 tests: Use more integer print functions
2
3 This avoids an unnecessary use of the floating point unit.
4
5 Update #3076.
```

**Author:** Trac Migrate 2017-07-18T12:25:42.000Z

Original author: sebastian.huber

In [changeset:"b682f4cb2186c0cf1212bb828a5795a9c84ef7d6/rtems" b682f4cb/rtems]:

```
1 dumpbuf: Simplify rtems_print_buffer()
2
3 This avoids an unnecessary use of the floating point unit.
4
5 Update #3076.
```

**Author:** Trac Migrate 2017-07-18T12:25:56.000Z

Original author: sebastian.huber

In [changeset:"07e178005a63cbbe3a634dda080a7f7976cbd294/rtems" 07e1780/rtems]:

```
1 tests: Use floating point task
2
3 These tests directly or indirectly use fprintf(), etc. which may use the
4 floating point unit.
```

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5  
6 Update [#3076](#).

**Author:** Trac Migrate 2017-07-19T09:57:31.000Z

Original author: sebastian.huber

In [changeset:"6f46848079cc582a0bf4da58905e7d4e67fd92aa/rtems" 6f46848/rtems]:

1 tests: Use floating point task  
2  
3 These tests directly **or** indirectly use fprintf(), etc. which may use the  
4 floating point unit.  
5  
6 Update [#3076](#).

**Author:** Joel Sherrill 2017-07-19T10:15:26.000Z

Original author: sebastian.huber

Newlib has integer only versions of the printf() family. Why aren't we using these in the test to avoid this problem?

**Author:** Trac Migrate 2017-07-19T10:55:10.000Z

Original author: sebastian.huber

We use them in the tests, however, we don't use them in the rest of RTEMS.

**Author:** Trac Migrate 2017-07-19T13:56:09.000Z

Original author: sebastian.huber

In [changeset:"a0271a704bc0d60a52d86b218bb3913ef0e8f635/rtems" a0271a7/rtems]:

1 tests: Use floating point task  
2  
3 These tests directly **or** indirectly use fprintf(), etc. which may use the  
4 floating point unit.  
5  
6 Update [#3076](#).

**Author:** Trac Migrate 2017-07-19T13:56:21.000Z

Original author: sebastian.huber

In [changeset:"0ea7ca9ea8f972b7e137c6810236b6d2a0c7a675/rtems"0ea7ca9/rtems]:

```
1 sptests/spcache01: Use standard test IO
2
3 Update #3076.
```

**Author:** Trac Migrate 2017-07-19T14:01:33.000Z

Original author: sebastian.huber

In [changeset:"5f1ae90e18ee8e2fa7e878cdb534775a7ee67e0e/rtems"5f1ae90e/rtems]:

```
1 sptests/sptls02: Use standard test IO
2
3 Update #3076.
```

**Author:** Trac Migrate 2017-07-20T06:28:07.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Test runs on GR740 and AT697F have no more failures due to non floating point tasks.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.687 3072 - Declaration of global functions in driver source files

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3072                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-07-12T05:54:31.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:sparc, bsp, priority::normal, resolution::fixed, tickettype::defect, version::4.11                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3072">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3072</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

There are declarations of global functions in various driver source files, e.g.

c/src/lib/libbsp/sparc/shared/drvmgr/ambapp\_bus\_gplib.c c/src/lib/libbsp/sparc/shared/drvmgr/ambapp\_bu

The declaration should move to a header file or a static function should be used.

**Author:** Trac Migrate 2017-08-30T10:35:52.000Z

Original author: sebastian.huber

Fixed by 8570ad2216fe796390dbe0b0e5bbdf92f02bfad2

**Author:** Trac Migrate 2017-08-30T10:36:03.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.688 3071 - Create an interrupt server for every processor in the system

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3071                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-07-12T05:46:02.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | bsp, priority::normal, resolution::fixed, smp, tickettype::enhancement, version::4.11                                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3071">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3071</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Create an interrupt server for every processor in the system with a one-to-one thread processor affinity. This allows load balancing for interrupt processing. Add support routines to customize the setup after initialization.

**Author:** Trac Migrate 2017-07-12T06:02:08.000Z

Original author: sebastian.huber

In [changeset:"e7ee719f795fdbd8b5185769bdc893d8840b6855/rtems"  
e7ee719f/rtems]:

```
1 Create one interrupt server per processor
2
3 This allows load balancing of interrupt processing in SMP
4 configurations.
5
6 Update #3071.
```

**Author:** Trac Migrate 2017-07-12T06:02:20.000Z

Original author: sebastian.huber

In [changeset:"a961e1980c1674679b1090bb24630cf3de8d6b48/rtems"  
a961e198/rtems]:

```
1 Add interrupt server suspend/resume
2
3 This mechanism can be used to safely move the interrupt server from one
4 scheduler instance to another for example.
5
6 Update #3071.
```

**Author:** Trac Migrate 2017-07-12T06:02:31.000Z

Original author: sebastian.huber

In [changeset:"d1841406b3b16c35c84563557c4ed08db9d3a72f/rtems"  
d184140/rtems]:

```
1 Add interrupt server set affinity
2
3 Update #3071.
```

**Author:** Trac Migrate 2017-07-12T06:02:43.000Z

Original author: sebastian.huber

In [changeset:"ccc87c8b9ed61d2bcf01c5721a0336a611be970e/rtems"  
ccc87c8b/rtems]:

```
1 Add interrupt server move
2
3 Update #3071.
```

**Author:** Trac Migrate 2017-07-12T06:02:56.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"af207fa9f6ac891b9a61f36bd8382eb89358aeca/rtems"af207fa9/rtems]:

```
1 Add interrupt vector set/get affinity
2
3 Close #3071.
```

**Author:** Trac Migrate 2017-07-12T08:57:38.000Z

Original author: sebastian.huber

In [changeset:"e19da87ad706bf79fa0e22f1f7d68e21bca2e296/rtems"e19da87/rtems]:

```
1 bsp: Include missing header file
2
3 Update #3071.
```

**Author:** Trac Migrate 2017-07-19T12:38:26.000Z

Original author: sebastian.huber

In [changeset:"dcc3ccc0a038ea949da5e6e788ef4ddeff4c21a0/rtems"dcc3ccc/rtems]:

```
1 bsp: Fix warning
2
3 Update #3071.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.689 3070 - Add `rtems_scheduler_ident_by_processor_set()`

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3070                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-07-11T08:12:52.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, smp, tickettype::enhancement, version::4.11                                              |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3070">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3070</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

```

1 /**
2  * @brief Identifies a scheduler by a processor set.
3  *
4  * The scheduler is selected according to the highest numbered online processor
5  * in the specified processor set.
6  *
7  * @param[in] cpusetsize Size of the specified processor set buffer in
8  *   bytes. This value must be positive.
9  * @param[out] cpuset The processor set to identify the scheduler.
10 * @param[out] id The scheduler identifier associated with the processor set.
11 *
12 * @retval RTEMS_SUCCESSFUL Successful operation.
13 * @retval RTEMS_INVALID_ADDRESS The @a id parameter is @c NULL.
14 * @retval RTEMS_INVALID_SIZE Invalid processor set size.
15 * @retval RTEMS_INVALID_NAME The processor set contains no online processor.
16 * @retval RTEMS_INCORRECT_STATE The processor set is valid, however, the
17 *   highest numbered online processor in the specified processor set is not
18 *   owned by a scheduler.
19 */
20 rtems_status_code rtems_scheduler_ident_by_processor_set(
21   size_t      cpusetsize,
22   cpu_set_t *cpuset,
23   rtems_id *id
24 );

```

**Author:** Trac Migrate 2017-07-11T08:21:56.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 {{{
2 /**
3  * @brief Gets the set of processors owned by the specified scheduler_
4  * instance.
5  *
6  * @brief Identifies a scheduler by a processor set.
7  *
8  * @param[in] scheduler_id Identifier of the scheduler instance.
9  *
10 * The scheduler is selected according to the highest numbered online_
11 * processor
12 * in the specified processor set.
13 *
14 *
15 * @param[in] cpusetsize Size of the specified processor set buffer in
16 * bytes. This value must be positive.
17 *
18 * bytes. This value must be positive.
19 *
20 ? ++
21
22 * @param[out] cpuset The processor set owned by the scheduler. A_
23 * set bit in
24 ?
25 ^ ^^^^
26 -----
27
28 * @param[out] cpuset The processor set to identify the scheduler.
29 ?
30 + ^^^^ ^^^
31
32 * @param[out] id The scheduler identifier associated with the_
33 * processor set.
34 *
35 * the processor set means that this processor is owned by the_
36 * scheduler and a
37 * cleared bit means the opposite.
38 *
39 *
40 * @retval RTEMS_SUCCESSFUL Successful operation.
41 *
42 * @retval RTEMS_INVALID_ADDRESS The @a cpuset parameter is @c NULL.
43 ?
44 ^^^^^^
45
46 * @retval RTEMS_INVALID_ADDRESS The @a id parameter is @c NULL.
47 ?
48 ^^
49
50 * @retval RTEMS_INVALID_ID Invalid scheduler instance identifier.
51 *
52 * @retval RTEMS_INVALID_NUMBER The processor set buffer is too small_
53 * for the
54 * set of processors owned by the scheduler.
55 *
56 * @retval RTEMS_INVALID_SIZE Invalid processor set size.
57 *
58 * @retval RTEMS_INVALID_NAME The processor set contains no online_
59 * processor.
60 *
61 * @retval RTEMS_INCORRECT_STATE The processor set is valid, however,_
62 * the
63 * highest numbered online processor in the specified processor set_
64 * is not
65 * owned by a scheduler.
66 */

```

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```

41 - rtems_status_code rtems_scheduler_get_processor_set(
42 ?                                     ^
43
44 + rtems_status_code rtems_scheduler_ident_by_processor_set(
45 ?                                     ^^ + +++
46
47 -   rtems_id    scheduler_id,
48 size_t    cpusetsize,
49 -   cpu_set_t *cpuset
50 +   cpu_set_t *cpuset,
51 ?               +
52
53 +   rtems_id *id
54 );
55 }}}

```

**Author:** Trac Migrate 2017-07-12T06:01:56.000Z

Original author: sebastian.huber

In [changeset:"ecabd3849625e690e3c5e218285251baf2a54645/rtems"  
ecabd384/rtems]:

```

1 rtems: Add rtems_scheduler_ident_by_processor_set
2
3 Update #3070.

```

**Author:** Trac Migrate 2017-07-12T06:29:10.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"a31dbcba2a6f377c49ebb2fcc39e8672a7589696/rtems-docs"  
a31dbcb/rtems-docs]:

```

1 c-user: Document new scheduler ident routines
2
3 Close #3069.
4 Close #3070.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed



4.2.1.690 3069 - Add `rtems_scheduler_ident_by_processor()`

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3069                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-07-11T05:25:52.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, smp, tickettype::enhancement, version::4.11                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3069">https://gitlab.rtems.org/rtems/rtems/-/issues/3069</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

```

1 /**
2  * @brief Identifies a scheduler by a processor index.
3  *
4  * @param[in] cpu_index The processor index.
5  * @param[out] id The scheduler identifier associated with the processor index.
6  *
7  * @retval RTEMS_SUCCESSFUL Successful operation.
8  * @retval RTEMS_INVALID_ADDRESS The @a id parameter is @c NULL.
9  * @retval RTEMS_INVALID_NAME Invalid processor index.
10 * @retval RTEMS_INCORRECT_STATE The processor index is valid, however, this
11 *   processor is not owned by a scheduler.
12 */

```

**Author:** Trac Migrate 2017-07-12T06:01:44.000Z

Original author: sebastian.huber

In [changeset:"548d65a52b1b90690236756a9bffc308e4d245db/rtems" 548d65a/rtems]:

```

1 rtems: Add rtems_scheduler_ident_by_processor()
2
3 Update #3069.

```

**Author:** Trac Migrate 2017-07-12T06:29:10.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"a31dbcba2a6f377c49ebb2fcc39e8672a7589696/rtems-docs" a31dbcb/rtems-docs]:

```
1 c-user: Document new scheduler ident routines
2
3 Close #3069.
4 Close #3070.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.691 3063 - Make the EDF scheduler the default SMP scheduler

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3063                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-07-06T13:50:55.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::config, smp, ticket-type::enhancement, version::4.11                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3063">https://gitlab.rtems.org/rtems/rtems/-/issues/3063</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The EDF SMP scheduler supports simple thread processor affinities (see #3059) with a small run-time overhead. The current default SMP scheduler lacks support for thread processor affinities at all. The EDF SMP scheduler offers a good feature set for most applications. So, use it by default. Run-time libraries like libgomp, MTAPI, work stealing schedulers, language interpreters (e.g. Erlang virtual machine), etc. use a one-to-one thread processor affinity for example.

**Author:** Trac Migrate 2017-07-10T07:40:06.000Z

Original author: sebastian.huber

In [changeset:"21389c061390cc04ea1d9882904daebfa86ee008/rtems" 21389c06/rtems]:

```
1 score: Make EDF the default SMP scheduler
2
3 The EDF SMP scheduler supports simple thread processor affinities
4 (see #3059) with a small run-time overhead. The current default SMP
```

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```

5 scheduler lacks support for thread processor affinities at all. The EDF
6 SMP scheduler offers a good feature set for most applications. So, use
7 it by default. Run-time libraries like libgomp, MTAPI, work stealing
8 schedulers, language interpreters (e.g. Erlang virtual machine),
9 maintenance of per-processor data (e.g. Universal Memory Allocator
10 (UMA)), etc. use a one-to-one thread processor affinity for example.
11
12 Update #3063.

```

**Author:** Trac Migrate 2017-07-10T07:49:06.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"90379988d69067bf4963c04496a75d47880461f8/rtems-docs" 9037998/rtems-docs]:

```

1 c-user: Update scheduler/task chapter
2
3 Reflect EDF SMP scheduler changes.
4
5 Close #3059.
6 Close #3063.

```

**Author:** Trac Migrate 2017-07-19T10:59:42.000Z

Original author: sebastian.huber

In [changeset:"7ad82395c455951d1dcf458df5456d16a0b0563a/rtems" 7ad8239/rtems]:

```

1 smptests/smpscheduler01: Use right scheduler
2
3 Update #3063.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.692 3061 - including 'unistd.h' in C++ does not build.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3061                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-07-05T03:23:03.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::highest, resolution::invalid, tickettype::defect, tool, version::5                                                  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3061">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3061</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Including unistd.h in a C++ program does not compile with the RSB for today:

```

1 $ /opt/work/rtems/4.12/bin/arm-rtems4.12-g++ -B/opt/work/rtems/4.12/arm-rtems4.12/
  ↪xilinx_zynq_zc706/lib -B/opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/
  ↪lib -specs bsp_specs -qrtems -march=armv7-a -mthumb -mfp=neon -mfloat-abi=hard_
  ↪-mtune=cortex-a9 -g -O2 u.cpp
2 In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/_
  ↪pthreadtypes.h:24:0,
3 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/types.h:239,
4 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/unistd.h:12,
5 from /opt/work/rtems/4.12/arm-rtems4.12/include/unistd.h:4,
6 from u.cpp:6:
7 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h: In function 'void CPU_
  ↪AND_S(size_t, cpu_set_t*, const cpu_set_t*, const cpu_set_t*)':
8 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:147:3: error: 'BIT_AND2' _
  ↪was not declared in this scope
9 BIT_AND2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
10 ^~~~~~
11 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:147:3: note: suggested_
  ↪alternative: 'BIT_AND'
12 BIT_AND2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
13 ^~~~~~
14 BIT_AND
15 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h: In function 'void CPU_OR_
  ↪S(size_t, cpu_set_t*, const cpu_set_t*, const cpu_set_t*)':
16 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:159:3: error: 'BIT_OR2' _
  ↪was not declared in this scope
17 BIT_OR2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
18 ^~~~~~
19 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:159:3: note: suggested_
  ↪alternative: 'BIT_OR'
20 BIT_OR2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
21 ^~~~~~
22 BIT_OR
23 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h: In function 'void CPU_
  ↪XOR_S(size_t, cpu_set_t*, const cpu_set_t*, const cpu_set_t*)':

```

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```

24 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:171:3: error: 'BIT_XOR2'
    ↳was not declared in this scope
25 BIT_XOR2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
26 ^~~~~~
27 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:171:3: note: suggested
    ↳alternative: 'BIT_OR'
28 BIT_XOR2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
29 ^~~~~~
30 BIT_OR
31 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h: In function 'void CPU_
    ↳NAND_S(size_t, cpu_set_t*, const cpu_set_t*, const cpu_set_t*)':
32 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:183:3: error: 'BIT_NAND2'
    ↳was not declared in this scope
33 BIT_NAND2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
34 ^~~~~~
35 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:183:3: note: suggested
    ↳alternative: 'BIT_NAND'
36 BIT_NAND2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
37 ^~~~~~
38 BIT_NAND
39 In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.
    ↳h:46:0,
40 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/_pthreadtypes.h:24,
41 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/types.h:239,
42 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/unistd.h:12,
43 from /opt/work/rtems/4.12/arm-rtems4.12/include/unistd.h:4,
44 from u.cpp:6:
45 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h: In function 'int CPU_
    ↳COUNT_S(size_t, const cpu_set_t*)':
46 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:194:10: error: '__
    ↳bitcount1' was not declared in this scope
47 return BIT_COUNT(_cpu_set_bits(setsize), set);
48 ^
49 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:194:10: note: suggested
    ↳alternative: '__count'

```

- [u.cpp](#)

|                                                     |
|-----------------------------------------------------|
| <b>Author:</b> Chris Johns 2017-07-05T03:23:40.000Z |
|-----------------------------------------------------|

- Attachment [u.cpp](#) added

Sample code to generate the error.

|                                                     |
|-----------------------------------------------------|
| <b>Author:</b> Chris Johns 2017-07-05T03:24:41.000Z |
|-----------------------------------------------------|

- Description changed

```

1 - Including `unistd.h` in a C++ program does not compile:
2 + Including `unistd.h` in a C++ program does not compile with the RSB_
   ↳ for today:
3 ?
   ↳ ++++++
4
5
6 {{{
7 $ /opt/work/rtems/4.12/bin/arm-rtems4.12-g++ -B/opt/work/rtems/4.12/arm-
   ↳ rtems4.12/xilinx_zynq_zc706/lib -B/opt/work/si/rtems/4.12/arm-rtems4.
   ↳ 12/xilinx_zynq_zc706/lib -specs bsp_specs -qrtems -march=armv7-a -
   ↳ mthumb -mfpu=neon -mfloat-abi=hard -mtune=cortex-a9 -g -O2 u.cpp
8 In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/_
   ↳ pthreadtypes.h:24:0,
9 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/types.h:239,
10 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/unistd.h:12,
11 from /opt/work/rtems/4.12/arm-rtems4.12/include/unistd.h:4,
12 from u.cpp:6:
13 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h: In function
   ↳ 'void CPU_AND_S(size_t, cpu_set_t*, const cpu_set_t*, const cpu_set_
   ↳ t*)':
14 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:147:3: error:
   ↳ 'BIT_AND2' was not declared in this scope
15 BIT_AND2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
16 ^~~~~~
17 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:147:3: note:
   ↳ suggested alternative: 'BIT_AND'
18 BIT_AND2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
19 ^~~~~~
20 BIT_AND
21 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h: In function
   ↳ 'void CPU_OR_S(size_t, cpu_set_t*, const cpu_set_t*, const cpu_set_t*)
   ↳ ':
22 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:159:3: error:
   ↳ 'BIT_OR2' was not declared in this scope
23 BIT_OR2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
24 ^~~~~~
25 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:159:3: note:
   ↳ suggested alternative: 'BIT_OR'
26 BIT_OR2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
27 ^~~~~~
28 BIT_OR
29 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h: In function
   ↳ 'void CPU_XOR_S(size_t, cpu_set_t*, const cpu_set_t*, const cpu_set_
   ↳ t*)':
30 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:171:3: error:
   ↳ 'BIT_XOR2' was not declared in this scope
31 BIT_XOR2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
32 ^~~~~~
33 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:171:3: note:

```

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```

↪ suggested alternative: 'BIT_OR'
34 BIT_XOR2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
35 ^~~~~~
36 BIT_OR
37 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h: In function
↪ 'void CPU_NAND_S(size_t, cpu_set_t*, const cpu_set_t*, const cpu_set_
↪ t*)':
38 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:183:3: error:
↪ 'BIT_NAND2' was not declared in this scope
39 BIT_NAND2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
40 ^~~~~~
41 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:183:3: note:↪
↪ suggested alternative: 'BIT_NAND'
42 BIT_NAND2(_cpu_set_bits(setsize), destset, srcset1, srcset2);
43 ^~~~~~
44 BIT_NAND
45 In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/
↪ cpuset.h:46:0,
46 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/_pthreadtypes.h:24,
47 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/types.h:239,
48 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/unistd.h:12,
49 from /opt/work/rtems/4.12/arm-rtems4.12/include/unistd.h:4,
50 from u.cpp:6:
51 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h: In function
↪ 'int CPU_COUNT_S(size_t, const cpu_set_t*)':
52 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:194:10: error:
↪ '__bitcount1' was not declared in this scope
53 return BIT_COUNT(_cpu_set_bits(setsize), set);
54 ^
55 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/cpuset.h:194:10: note:↪
↪ suggested alternative: '__count'
56 }}}

```

**Author:** Chris Johns 2017-07-05T03:42:13.000Z

Maybe we need a test for C++ that just includes a number of standard headers.

**Author:** Trac Migrate 2017-07-05T11:46:37.000Z

I guess this xilinx\_zynq\_zc706 installation has an installed libbsd? I removed some header files from libbsd which may be in your installation tree (e.g. you have now two bitset.h).

**Author:** Joel Sherrill 2017-07-05T11:56:05.000Z

It may be worth it to duplicate psxhdr for C++

---

**Author:** Chris Johns 2017-07-06T00:08:21.000Z

---

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

Replying to [Sebastian Huber](#):

I guess this xilinx\_zynq\_zc706 installation has an installed libbsd? I removed some header files from libbsd which may in in your installation tree (e.g. you have now two bitset.h).

Doh! Yes it does. Removing the installed BSP and then installing again allowed libbsd to build.

Thanks.

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.693 3059 - Add a simple processor affinity support to the EDF SMP scheduler

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3059                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-07-04T07:31:27.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | cpukit, priority::normal, resolution::fixed, rtems::score, smp, ticket-type::enhancement, version::4.11             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3059">https://gitlab.rtems.org/rtems/rtems/-/issues/3059</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Add support to the EDF SMP scheduler to honour one-to-one and one-to-all thread processor affinities. Use one ready queue for threads with a one-to-all affinity. Use one ready queue for each of the one-to-one threads for each processor. Since a red-black tree is used for the ready queues, the space overhead of one pointer per ready queue is small.

---

**Author:** Trac Migrate 2017-07-10T07:33:00.000Z

---

Original author: sebastian.huber

In [changeset:"fd03ba449eb9798b17430524a14898eb67819b08/rtems-source-builder" fd03ba4/rtems-source-builder]:



```

1 4.12: Fix and update bitset(9)
2
3 Update #3059.

```

**Author:** Trac Migrate 2017-07-10T07:37:14.000Z

Original author: sebastian.huber

In [changeset:"3dfe55ee154b6053e936e7b458206b71aad51caa/rtems" 3dfe55ee/rtems]:

```

1 score: Use <sys/bitset.h> for Processor_mask
2
3 Implement the Processor_mask via <sys/bitset.h>. Provide
4 _Processor_mask_To_uint32_t() to enable its use in device specific
5 routines, e.g. interrupt affinity register in an interrupt controller.
6
7 Update #3059.

```

**Author:** Trac Migrate 2017-07-10T07:37:27.000Z

Original author: sebastian.huber

In [changeset:"7a5e4d94774d2cbfeb96664ed7295f20b8618fe8/rtems" 7a5e4d94/rtems]:

```

1 score: Add processor mask to/from cpu_set_t
2
3 Update #3059.

```

**Author:** Trac Migrate 2017-07-10T07:37:38.000Z

Original author: sebastian.huber

In [changeset:"6223097a8d845997d8925888c8306529ba04ab8a/rtems" 6223097a/rtems]:

```

1 score: Add some processor mask functions
2
3 Update #3059.

```

**Author:** Trac Migrate 2017-07-10T07:37:51.000Z

Original author: sebastian.huber

In [changeset:"78515554fd110c9636c38501b699a5da125a5496/rtems" 7851555/rtems]:

```
1 score: Move processor affinity to Thread_Control
2
3 Update #3059.
```

**Author:** Trac Migrate 2017-07-10T07:38:03.000Z

Original author: sebastian.huber

In [changeset:"6b1d8c7865268071a8de6ba6343159049a8b0e56/rtems"  
6b1d8c7/rtems]:

```
1 score: Add processor set to scheduler context
2
3 Replace the simple processor count with the processor set owned by the
4 scheduler instance.
5
6 Update #3059.
```

**Author:** Trac Migrate 2017-07-10T07:38:15.000Z

Original author: sebastian.huber

In [changeset:"1ec9c86fb60ca5e4f45b838c6fd3006c482c7da7/rtems"  
1ec9c86/rtems]:

```
1 rtems: Fix rtems_scheduler_remove_processor()
2
3 Account for the thread processor affinity and make sure that it is
4 possible to allocate a processor to each thread dedicated to a scheduler
5 instance.
6
7 Update #3059.
```

**Author:** Trac Migrate 2017-07-10T07:38:28.000Z

Original author: sebastian.huber

In [changeset:"0232b28df10549d64dcc6d9fc68a332014dac8eb/rtems"  
0232b28/rtems]:

```
1 score: Use processor mask for set affinity
2
3 Update #3059.
```

**Author:** Trac Migrate 2017-07-10T07:38:41.000Z

Original author: sebastian.huber

In [changeset:"76d119857f62ceff860439ae8bbf3fa29757dc87/rtems" 76d1198/rtems]:

```
1 score: Introduce _SMP_Get_online_processors()
2
3 Update #3059.
```

**Author:** Trac Migrate 2017-07-10T07:38:53.000Z

Original author: sebastian.huber

In [changeset:"16347a6b3910b04932225f1ea296a7adf206ec9e/rtems" 16347a6/rtems]:

```
1 score: Fix default set affinity
2
3 The set of online processors must be a subset of the thread processor
4 affinity for the schedulers without arbitrary processor affinity support
5 to avoid problems in case of processor addition and removal.
6
7 Update #3059.
```

**Author:** Trac Migrate 2017-07-10T07:39:05.000Z

Original author: sebastian.huber

In [changeset:"197a614209beb9359e127151c219722f56054677/rtems" 197a614/rtems]:

```
1 score: Add scheduler node to set affinity op
2
3 Update #3059.
```

**Author:** Trac Migrate 2017-07-10T07:39:17.000Z

Original author: sebastian.huber

In [changeset:"e745ec59d8b5b8ff64b2920789296b624514d352/rtems" e745ec5/rtems]:

```
1 smptests/smpstrongapa01: Simplify
2
3 Update #3059.
```

**Author:** Trac Migrate 2017-07-10T07:39:29.000Z

Original author: sebastian.huber

In [changeset:"d19dc071a206789498629747bdf7e433cd05f42c/rtems"d19dc071/rtems]:

```
1 score: Pass scheduler nodes to processor allocator
2
3 This allows scheduler implementations to easily access
4 scheduler-specific data.
5
6 Update #3059.
```

**Author:** Trac Migrate 2017-07-10T07:39:41.000Z

Original author: sebastian.huber

In [changeset:"34487537ceb62ee2e2fab0667e65c43a1319855/rtems"34487537/rtems]:

```
1 score: Add simple affinity support to EDF SMP
2
3 Update #3059.
```

**Author:** Trac Migrate 2017-07-10T07:39:54.000Z

Original author: sebastian.huber

In [changeset:"4a1bdd3045fa00c95924deb27bc0ffab7e8aaf14/rtems"4a1bdd30/rtems]:

```
1 score: Fix set scheduler
2
3 Ensure that the thread processor affinity fits the new scheduler
4 instance.
5
6 Update #3059.
```

**Author:** Trac Migrate 2017-07-10T07:40:06.000Z

Original author: sebastian.huber

In [changeset:"21389c061390cc04ea1d9882904daebfa86ee008/rtems"21389c06/rtems]:

```
1 score: Make EDF the default SMP scheduler
2
3 The EDF SMP scheduler supports simple thread processor affinities
4 (see #3059) with a small run-time overhead. The current default SMP
5 scheduler lacks support for thread processor affinities at all. The EDF
6 SMP scheduler offers a good feature set for most applications. So, use
7 it by default. Run-time libraries like libgomp, MTAPI, work stealing
```

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```

8 schedulers, language interpreters (e.g. Erlang virtual machine),
9 maintenance of per-processor data (e.g. Universal Memory Allocator
10 (UMA)), etc. use a one-to-one thread processor affinity for example.
11
12 Update #3063.

```

**Author:** Trac Migrate 2017-07-10T07:49:06.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"90379988d69067bf4963c04496a75d47880461f8/rtems-docs" 9037998/rtems-docs]:

```

1 c-user: Update scheduler/task chapter
2
3 Reflect EDF SMP scheduler changes.
4
5 Close #3059.
6 Close #3063.

```

**Author:** Trac Migrate 2017-07-11T11:51:47.000Z

Original author: sebastian.huber

In [changeset:"3b14e7aa6e6d90cc305e894fe7e29c7b8802a722/rtems" 3b14e7aa/rtems]:

```

1 rtems: Fix warning
2
3 Update #3059.

```

**Author:** Trac Migrate 2017-07-11T12:16:24.000Z

Original author: sebastian.huber

In [changeset:"c29eb085f2be8f2a325eaa8e41a48845b824b4c4/rtems" c29eb085/rtems]:

```

1 bsp/sparc: Fix ambapp_int_set_affinity()
2
3 Update #3059.

```

**Author:** Trac Migrate 2017-07-12T06:15:29.000Z

Original author: sebastian.huber

In [changeset:"83973200f0e69a897f9a35d68a689ce706dcfb78/rtems-source-builder" 8397320/rtems-source-builder]:

```
1 4.12: Fix bitset(9)
2
3 Update #3059.
```

**Author:** Trac Migrate 2017-07-12T08:57:27.000Z

Original author: sebastian.huber

In [changeset:"e2623038f0515421823d08dcf8622235d44346d2/rtems" e2623038/rtems]:

```
1 score: Fix typo
2
3 Update #3059.
```

**Author:** Trac Migrate 2017-07-18T12:38:53.000Z

Original author: sebastian.huber

In [changeset:"852d7059b6cbad029a8d18786d2aca30be95b706/rtems" 852d7059/rtems]:

```
1 score: Fix warning
2
3 Update #3059.
```

**Author:** Trac Migrate 2017-07-19T11:04:31.000Z

Original author: sebastian.huber

In [changeset:"96ce1ec743a1fcf27593ee72cf1695d9eb0290de/rtems" 96ce1ec/rtems]:

```
1 smptests/smpscheduler02: Remove invalid assert
2
3 Update #3059.
```

**Author:** Trac Migrate 2017-09-22T12:24:57.000Z

Original author: sebastian.huber

In [changeset:"560acb62ef225c9d88f79542d68beadb59a46ac3/rtems" 560acb62/rtems]:

```

1 score: Include missing header file
2
3 Update #3059.

```

**Author:** Trac Migrate 2017-11-07T06:09:28.000Z

Original author: sebastian.huber

In [changeset:"bceb9db600427bc758d846cb02e63567e16700b8/rtems" bceb9db6/rtems]:

```

1 score: Remove superfluous include
2
3 Update #3059.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.694 3056 - Add EDF SMP scheduler

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3056                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-06-29T09:10:33.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | cpukit, priority::normal, resolution::fixed, rtems::score, smp, ticket-type::enhancement                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3056">https://gitlab.rtems.org/rtems/rtems/-/issues/3056</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The current SMP schedulers are all fixed-priority schedulers. Add a job-level fixed priority scheduler (EDF).

**Author:** Trac Migrate 2017-06-30T06:00:40.000Z

Original author: sebastian.huber

In [changeset:"1dbce41bb85ddf1368779a85e3f29815f831094e/rtems" 1dbce41/rtems]:

```

1 smptests: Split smpscheduler03
2
3 Split smpscheduler03 to run the tests with only one processor.
4
5 Update #3056.

```

**Author:** Trac Migrate 2017-06-30T06:00:53.000Z

Original author: sebastian.huber

In [changeset:"15dbc710b62084e101bd2a46b3faa1ddc7ee417e/rtems" 15dbc71/rtems]:

```

1 score: Add red-black tree node to Scheduler_Node
2
3 In SMP configurations, add a red-black tree node to Scheduler_Node to
4 enable an EDF scheduler implementation.
5
6 Update #3056.

```

**Author:** Trac Migrate 2017-06-30T06:01:05.000Z

Original author: sebastian.huber

In [changeset:"f3d9f2288e957caabaa1a312096cb72f8e748807/rtems" f3d9f228/rtems]:

```

1 score: Add SMP EDF scheduler
2
3 Update #3056.

```

**Author:** Trac Migrate 2017-06-30T06:01:16.000Z

Original author: sebastian.huber

In [changeset:"74f9db8887c12f3e01719f71fd6eced148bb00d2/rtems" 74f9db8/rtems]:

```

1 score: Add RTEMS_NO_INLINE
2
3 Update #3056.

```

**Author:** Trac Migrate 2017-06-30T06:01:28.000Z

Original author: sebastian.huber

In [changeset:"7f7a3e8f70c46a2a5a5ef120909c8211840ef5cb/rtems" 7f7a3e8f/rtems]:



```

1 tests: Move busy loop to test support
2
3 Update #3056.

```

**Author:** Trac Migrate 2017-06-30T06:01:41.000Z

Original author: sebastian.huber

In [changeset:"7adf4941a8e4505a1d345607fb5a5d007595eb05/rtems"7adf4941/rtems]:

```

1 smptests/smpschedf01: New test
2
3 Update #3056.

```

**Author:** Trac Migrate 2017-07-03T07:43:13.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"8cf3d75a92b42ba8891c693ede8ea3c3a4290dee/rtems-docs"8cf3d75/rtems-docs]:

```

1 c-user: Document EDF SMP
2
3 Close #3056.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.695 3054 - gdb 7.12.1 on RSB 4.12 branch fail to build on Archlinux

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3054                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-06-28T07:44:58.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3054">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3054</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: AndiK

7.12.1 does not compile with latest guile As already stated here: [https://sourceware.org/bugzilla/show\\_bug.cgi?id=21104](https://sourceware.org/bugzilla/show_bug.cgi?id=21104) GDB in version 7.12.1 fails when trying to compile on Archlinux. GDB uses deprecated functions of libguile which were gone in version 2.2 of libguile. As GDB states in its configure script to support version 2.2 of libguile it fails compiling.

Tested with the latest rtems source builder on master.

- [rsb-report-arm-rtems4.12-gdb-7.12-x86\\_64-linux-gnu-1.txt](#)

**Author:** Trac Migrate 2017-06-28T08:13:10.000Z

Original author: AndiK

- **Attachment** [rsb-report-arm-rtems4.12-gdb-7.12-x86\\_64-linux-gnu-1.txt](#) added

rtems source builder gdb report

**Author:** Joel Sherrill 2017-06-28T16:09:15.000Z

Original author: AndiK

I have no idea what guile is being used for but based on the comments in the gdb PR, it looks like it isn't getting fixed on the 7.12 branch. Looks like Freddie's suggestion is the most practical one.

Freddie Chopin 2017-05-02 21:23:58 UTC For me a "workaround" is to explicitly disable guile by passing `--with-guile=no` to GDB's configure script

A semi-proper solution for 7.12 would be to detect the newer guile version and disable guile.

The PR thread doesn't mention if this is fixed in a newer gdb which leads me to believe that it hasn't been.

**Author:** Joel Sherrill 2017-06-28T16:26:58.000Z

Original author: AndiK

Follow up based on discussions on the gdb PR. This is also broken with gdb 8.0. ArchLinux uses gdb 8.0 with guile 2.0.

We have two options:

- build a known guile version as a dependency for gdb
- disable guile

guile (Scheme) is used as an alternative to Python to program gdb from a user perspective.

My personal recommendation to you would be to disable guile in the RSB configuration files and submit a patch.

Whether or not this is the best permanent solution is up for discussion from an RTEMS community discussion. I suspect it is the best solution though.

**Author:** Trac Migrate 2017-07-03T21:59:59.000Z

Original author: AndiK

- **Owner** set to Andreas Kölbl <[andreas.koelbl@st.oth-regensburg.de](mailto:andreas.koelbl@st.oth-regensburg.de)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"d413d7e228544e855b26502ec1d6517d45a3f8e8/rtems-source-builder" d413d7e/rtems-source-builder]:

```

1 Fix GDB build on ArchLinux
2
3 Archlinux provides both, libguile v2.0 and v2.2. GDB states in
4 configuration its compatibility with both versions of libguile which is
5 false. The SCM_port interface of libguile was removed in v2.2 and
6 therefore breaks GDB as a user.
7
8 RTEMS does not use libguile and therefore it can be compiled without
9 support.
10
11 https://sourceware.org/bugzilla/show_bug.cgi?id=21104
12
13 Close #3054.
```

**Author:** Chris Johns 2017-07-12T22:33:32.000Z

Original author: AndiK

- **Milestone** changed from %"4.12.1" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: AndiK

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.696 3052 - RSB: powerpc GDB build broken on Apple Darwin

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3052                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2017-06-20T12:37:18.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3052">https://gitlab.rtems.org/rtems/rtems/-/issues/3052</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

```

1 RTEMS Tools Project - Source Builder Error Report
2 Build: error: building powerpc-rtems4.12-gdb-7.12-x86_64-apple-darwin14.5.0-1
3 Command Line: ../source-builder/sb-set-builder --prefix=~/.rtems/4.12 4.12/rtems-
  ↳ powerpc
4 Python: 2.7.10 (default, Jul 14 2015, 19:46:27) [GCC 4.2.1 Compatible Apple LLVM_
  ↳ 6.0 (clang-600.0.39)]
5 git://git.rtems.org/rtems-source-builder.git/origin/
  ↳ cb3fac1ea71f50b1bf7dcfe032c639392915d32a-modified
6 Darwin yrael.lan 14.5.0 Darwin Kernel Version 14.5.0: Sun Sep 25 22:07:15 PDT_
  ↳ 2016; root:xnu-2782.50.9~1/RELEASE_X86_64 x86_64
7 Tail of the build log:
8 ^
9 ../../gdb-7.12/gdb/common/vec.h:711:18: note: expanded from macro '\
10 DEF_VEC_FUNC_P'
11 static inline T *VEC_OP (T,address)                                \
12 ^
13 ../../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
14 #define VEC_OP(T,OP) VEC_##T##_##OP
15 ^
16 <scratch space>:151:1: note: expanded from here
17 VEC_tp_t_address
18 ^
19 ../../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC_tp_t_
  ↳ lower_bound' [-Wunused-function]
20 ../../gdb-7.12/gdb/common/vec.h:428:20: note: expanded from macro 'DEF_VEC_P'
21 VEC_T(T);                                                         \
22 ^
23 ../../gdb-7.12/gdb/common/vec.h:717:24: note: expanded from macro '\

```

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```

24 DEF_VEC_FUNC_P'
25 static inline unsigned VEC_OP (T,lower_bound)                \\
26 ^
27 ../../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
28 #define VEC_OP(T,OP) VEC_##T##_##OP
29 ^
30 <scratch space>:155:1: note: expanded from here
31 VEC_tp_t_lower_bound
32 ^
33 ../../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC_tp_t_
  ↳ alloc' [-Wunused-function]
34 ../../gdb-7.12/gdb/common/vec.h:429:27: note: expanded from macro 'DEF_VEC_P'
35 DEF_VEC_FUNC_P(T)                                           \\
36 ^
37 ../../gdb-7.12/gdb/common/vec.h:744:23: note: expanded from macro '\\
38 DEF_VEC_ALLOC_FUNC_P'
39 static inline VEC(T) *VEC_OP (T,alloc)                      \\
40 ^
41 ../../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
42 #define VEC_OP(T,OP) VEC_##T##_##OP
43 ^
44 <scratch space>:166:1: note: expanded from here
45 VEC_tp_t_alloc
46 ^
47 ../../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC_tp_t_free
  ↳ ' [-Wunused-function]
48 ../../gdb-7.12/gdb/common/vec.h:429:27: note: expanded from macro 'DEF_VEC_P'
49 DEF_VEC_FUNC_P(T)                                           \\
50 ^
51 ../../gdb-7.12/gdb/common/vec.h:751:20: note: expanded from macro '\\
52 DEF_VEC_ALLOC_FUNC_P'
53 static inline void VEC_OP (T,free)                          \\
54 ^
55 ../../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
56 #define VEC_OP(T,OP) VEC_##T##_##OP
57 ^
58 <scratch space>:170:1: note: expanded from here
59 VEC_tp_t_free
60 ^
61 ../../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC_tp_t_
  ↳ merge' [-Wunused-function]
62 ../../gdb-7.12/gdb/common/vec.h:429:27: note: expanded from macro 'DEF_VEC_P'
63 DEF_VEC_FUNC_P(T)                                           \\
64 ^
65 ../../gdb-7.12/gdb/common/vec.h:784:23: note: expanded from macro '\\
66 DEF_VEC_ALLOC_FUNC_P'
67 static inline VEC(T) *VEC_OP (T,merge) (VEC(T) *vec1_, VEC(T) *vec2_)  \\
68 ^
69 ../../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'

```

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```

70 #define VEC_OP(T,OP) VEC_##T##_##OP
71 ^
72 <scratch space>:187:1: note: expanded from here
73 VEC_tp_t_merge
74 ^
75 ../../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC_tp_t_
  ↳safe_grow' [-Wunused-function]
76 ../../gdb-7.12/gdb/common/vec.h:429:27: note: expanded from macro 'DEF_VEC_P'
77 DEF_VEC_FUNC_P(T)                                     \\
78 ^
79 ../../gdb-7.12/gdb/common/vec.h:817:20: note: expanded from macro '\\
80 DEF_VEC_ALLOC_FUNC_P'
81 static inline void VEC_OP (T,safe_grow)                \\
82 ^
83 ../../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
84 #define VEC_OP(T,OP) VEC_##T##_##OP
85 ^
86 <scratch space>:205:1: note: expanded from here
87 VEC_tp_t_safe_grow
88 ^
89 ../../gdb-7.12/gdb/record-btrace.c:2445:1: warning: unused function 'VEC_tp_t_
  ↳safe_insert' [-Wunused-function]
90 ../../gdb-7.12/gdb/common/vec.h:429:27: note: expanded from macro 'DEF_VEC_P'
91 DEF_VEC_FUNC_P(T)                                     \\
92 ^
93 ../../gdb-7.12/gdb/common/vec.h:835:18: note: expanded from macro '\\
94 DEF_VEC_ALLOC_FUNC_P'
95 static inline T *VEC_OP (T,safe_insert)                \\
96 ^
97 ../../gdb-7.12/gdb/common/vec.h:399:22: note: expanded from macro 'VEC_OP'
98 #define VEC_OP(T,OP) VEC_##T##_##OP
99 ^
100 <scratch space>:225:1: note: expanded from here
101 VEC_tp_t_safe_insert
102 ^
103 2 warnings generated.
104 /usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/
  ↳tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -
  ↳g -O2 -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/
  ↳gdb/config -DLOCALEDIR="\"/rtems-source-builder/rtems/~rtems/4.12/share/
  ↳locale\\\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/./include/opcode -I../../gdb-7.
  ↳12/gdb/./opcodes/.. -I../../gdb-7.12/gdb/./readline/.. -I../../gdb-7.12/gdb/..
  ↳/zlib -I../bfd -I../../gdb-7.12/gdb/./bfd -I../../gdb-7.12/gdb/./include -I../
  ↳libdecnumber -I../../gdb-7.12/gdb/./libdecnumber -I../../gdb-7.12/gdb/gnulib/
  ↳import -Ibuild-gnulib/import -DTUI=1 -I/rtems-source-builder/rtems/build/tmp/
  ↳sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -I/
  ↳System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -I/
  ↳System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall
  ↳-Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -Wno-switch -Wno-

```

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```

↪char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-
↪variable -Wno-sign-compare -Wno-write-strings -Wno-narrowing -Wformat-
↪nonliteral -c -o debug.o -MT debug.o -MMD -MP -MF .deps/debug.Tpo ../../gdb-7.
↪12/gdb/debug.c
105 /usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/
↪tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -
↪g -O2 -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/
↪gdb/config -DLOCALEDIR="\"/rtems-source-builder/rtems/~rtems/4.12/share/
↪locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/./include/opcode -I../../gdb-7.
↪12/gdb/./opcodes/.. -I../../gdb-7.12/gdb/./readline/.. -I../../gdb-7.12/gdb/..
↪zlib -I../bfd -I../../gdb-7.12/gdb/./bfd -I../../gdb-7.12/gdb/./include -I../
↪libdecnumber -I../../gdb-7.12/gdb/./libdecnumber -I../../gdb-7.12/gdb/gnulib/
↪import -Ibuild-gnulib/import -DTUI=1 -I/rtems-source-builder/rtems/build/tmp/
↪sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -I/
↪System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -I/
↪System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall
↪-Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -Wno-switch -Wno-
↪char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-
↪variable -Wno-sign-compare -Wno-write-strings -Wno-narrowing -Wformat-
↪nonliteral -c -o common-exceptions.o -MT common-exceptions.o -MMD -MP -MF .
↪deps/common-exceptions.Tpo ../../gdb-7.12/gdb/common/common-exceptions.c
106 /usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/
↪tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -
↪g -O2 -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/
↪gdb/config -DLOCALEDIR="\"/rtems-source-builder/rtems/~rtems/4.12/share/
↪locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/./include/opcode -I../../gdb-7.
↪12/gdb/./opcodes/.. -I../../gdb-7.12/gdb/./readline/.. -I../../gdb-7.12/gdb/..
↪zlib -I../bfd -I../../gdb-7.12/gdb/./bfd -I../../gdb-7.12/gdb/./include -I../
↪libdecnumber -I../../gdb-7.12/gdb/./libdecnumber -I../../gdb-7.12/gdb/gnulib/
↪import -Ibuild-gnulib/import -DTUI=1 -I/rtems-source-builder/rtems/build/tmp/
↪sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -I/
↪System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -I/
↪System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall
↪-Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -Wno-switch -Wno-
↪char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-
↪variable -Wno-sign-compare -Wno-write-strings -Wno-narrowing -Wformat-
↪nonliteral -c -o btrace-common.o -MT btrace-common.o -MMD -MP -MF .deps/btrace-
↪common.Tpo ../../gdb-7.12/gdb/common/btrace-common.c
107 /usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/
↪tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -
↪g -O2 -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/
↪gdb/config -DLOCALEDIR="\"/rtems-source-builder/rtems/~rtems/4.12/share/
↪locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/./include/opcode -I../../gdb-7.
↪12/gdb/./opcodes/.. -I../../gdb-7.12/gdb/./readline/.. -I../../gdb-7.12/gdb/..
↪zlib -I../bfd -I../../gdb-7.12/gdb/./bfd -I../../gdb-7.12/gdb/./include -I../
↪libdecnumber -I../../gdb-7.12/gdb/./libdecnumber -I../../gdb-7.12/gdb/gnulib/
↪import -Ibuild-gnulib/import -DTUI=1 -I/rtems-source-builder/rtems/build/tmp/
↪sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -I/
↪System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -I/

```

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```

↪System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall
↪-Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -Wno-switch -Wno-
↪char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-
↪variable -Wno-sign-compare -Wno-write-strings -Wno-narrowing -Wformat-
↪nonliteral -c -o fileio.o -MT fileio.o -MMD -MP -MF .deps/fileio.Tpo ../../gdb-
↪7.12/gdb/common/fileio.c
108 clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is
↪deprecated
109 clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is
↪deprecated
110 clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is
↪deprecated
111 clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is
↪deprecated
112 warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-
↪Wunused-parameter'? [-Wunknown-warning-option]
113 warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-
↪Wunused-const-variable'? [-Wunknown-warning-option]
114 warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-
↪Wunused-parameter'? [-Wunknown-warning-option]
115 warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-
↪Wunused-const-variable'? [-Wunknown-warning-option]
116 2 warnings generated.
117 warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-
↪Wunused-parameter'? [-Wunknown-warning-option]
118 warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-
↪Wunused-parameter'? [-Wunknown-warning-option]
119 warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-
↪Wunused-const-variable'? [-Wunknown-warning-option]
120 warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-
↪Wunused-const-variable'? [-Wunknown-warning-option]
121 /usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/
↪tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -
↪g -O2 -I. -I../../gdb-7.12/gdb -I../../gdb-7.12/gdb/common -I../../gdb-7.12/
↪gdb/config -DLOCALEDIR="\"/rtems-source-builder/rtems/~rtems/4.12/share/
↪locale\"" -DHAVE_CONFIG_H -I../../gdb-7.12/gdb/./include/opcode -I../../gdb-7.
↪12/gdb/./opcodes/.. -I../../gdb-7.12/gdb/./readline/.. -I../../gdb-7.12/gdb/..
↪/zlib -I../bfd -I../../gdb-7.12/gdb/./bfd -I../../gdb-7.12/gdb/./include -I../
↪libdecnumber -I../../gdb-7.12/gdb/./libdecnumber -I../../gdb-7.12/gdb/gnulib/
↪import -Ibuild-gnulib/import -DTUI=1 -I/rtems-source-builder/rtems/build/tmp/
↪sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -I/
↪System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -I/
↪System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall
↪-Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -Wno-switch -Wno-
↪char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-
↪variable -Wno-sign-compare -Wno-write-strings -Wno-narrowing -Wformat-
↪nonliteral -c -o common-regcache.o -MT common-regcache.o -MMD -MP -MF .deps/
↪common-regcache.Tpo ../../gdb-7.12/gdb/common/common-regcache.c
122 clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is

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↳ deprecated
123 warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-
↳ Wunused-parameter'? [-Wunknown-warning-option]
124 warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-
↳ Wunused-const-variable'? [-Wunknown-warning-option]
125 2 warnings generated.
126 2 warnings generated.
127 2 warnings generated.
128 /usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/
↳ tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -
↳ g -O2 -I. -I../gdb-7.12/gdb -I../gdb-7.12/gdb/common -I../gdb-7.12/
↳ gdb/config -DLOCALEDIR="\"/rtems-source-builder/rtems/~rtems/4.12/share/
↳ locale\"" -DHAVE_CONFIG_H -I../gdb-7.12/gdb/./include/opcode -I../gdb-7.
↳ 12/gdb/./opcodes/.. -I../gdb-7.12/gdb/./readline/.. -I../gdb-7.12/gdb/..
↳ /zlib -I../bfd -I../gdb-7.12/gdb/./bfd -I../gdb-7.12/gdb/./include -I../
↳ libdecnumber -I../gdb-7.12/gdb/./libdecnumber -I../gdb-7.12/gdb/gnulib/
↳ import -Ibuild-gnulib/import -DTUI=1 -I/rtems-source-builder/rtems/build/tmp/
↳ sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -I/
↳ System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -I/
↳ System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall
↳ -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -Wno-switch -Wno-
↳ char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-
↳ variable -Wno-sign-compare -Wno-write-strings -Wno-narrowing -Wformat-
↳ nonliteral -c -o compile.o -MT compile.o -MMD -MP -MF .deps/compile.Tpo ../../
↳ gdb-7.12/gdb/compile/compile.c
129 /usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/
↳ tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -
↳ g -O2 -I. -I../gdb-7.12/gdb -I../gdb-7.12/gdb/common -I../gdb-7.12/
↳ gdb/config -DLOCALEDIR="\"/rtems-source-builder/rtems/~rtems/4.12/share/
↳ locale\"" -DHAVE_CONFIG_H -I../gdb-7.12/gdb/./include/opcode -I../gdb-7.
↳ 12/gdb/./opcodes/.. -I../gdb-7.12/gdb/./readline/.. -I../gdb-7.12/gdb/..
↳ /zlib -I../bfd -I../gdb-7.12/gdb/./bfd -I../gdb-7.12/gdb/./include -I../
↳ libdecnumber -I../gdb-7.12/gdb/./libdecnumber -I../gdb-7.12/gdb/gnulib/
↳ import -Ibuild-gnulib/import -DTUI=1 -I/rtems-source-builder/rtems/build/tmp/
↳ sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -I/
↳ System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -I/
↳ System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall
↳ -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -Wno-switch -Wno-
↳ char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-
↳ variable -Wno-sign-compare -Wno-write-strings -Wno-narrowing -Wformat-
↳ nonliteral -c -o compile-c-symbols.o -MT compile-c-symbols.o -MMD -MP -MF .
↳ deps/compile-c-symbols.Tpo ../../gdb-7.12/gdb/compile/compile-c-symbols.c
130 /usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/
↳ tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -
↳ g -O2 -I. -I../gdb-7.12/gdb -I../gdb-7.12/gdb/common -I../gdb-7.12/
↳ gdb/config -DLOCALEDIR="\"/rtems-source-builder/rtems/~rtems/4.12/share/
↳ locale\"" -DHAVE_CONFIG_H -I../gdb-7.12/gdb/./include/opcode -I../gdb-7.
↳ 12/gdb/./opcodes/.. -I../gdb-7.12/gdb/./readline/.. -I../gdb-7.12/gdb/..
↳ /zlib -I../bfd -I../gdb-7.12/gdb/./bfd -I../gdb-7.12/gdb/./include -I../

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↳libdecnumber -I../gdb-7.12/gdb/./libdecnumber -I../gdb-7.12/gdb/gnulib/
↳import -Ibuild-gnulib/import -DTUI=1 -I/rtems-source-builder/rtems/build/tmp/
↳sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -I/
↳System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -I/
↳System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall
↳-Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -Wno-switch -Wno-
↳char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-
↳variable -Wno-sign-compare -Wno-write-strings -Wno-narrowing -Wformat-
↳nonliteral -c -o compile-c-types.o -MT compile-c-types.o -MMD -MP -MF .deps/
↳compile-c-types.Tpo ../gdb-7.12/gdb/compile/compile-c-types.c
131 2 warnings generated.
132 2 warnings generated.
133 clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is
↳deprecated
134 clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is
↳deprecated
135 clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is
↳deprecated
136 warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-
↳Wunused-parameter'? [-Wunknown-warning-option]
137 warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-
↳Wunused-parameter'? [-Wunknown-warning-option]
138 warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-
↳Wunused-const-variable'? [-Wunknown-warning-option]
139 warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-
↳Wunused-parameter'? [-Wunknown-warning-option]
140 warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-
↳Wunused-const-variable'? [-Wunknown-warning-option]
141 warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-
↳Wunused-const-variable'? [-Wunknown-warning-option]
142 /usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/
↳tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -
↳g -O2 -I. -I../gdb-7.12/gdb -I../gdb-7.12/gdb/common -I../gdb-7.12/
↳gdb/config -DLOCALEDIR="//rtems-source-builder/rtems/~rtems/4.12/share/
↳locale//" -DHAVE_CONFIG_H -I../gdb-7.12/gdb/./include/opcode -I../gdb-7.
↳12/gdb/./opcodes/. -I../gdb-7.12/gdb/./readline/. -I../gdb-7.12/gdb/./
↳zlib -I../bfd -I../gdb-7.12/gdb/./bfd -I../gdb-7.12/gdb/./include -I../
↳libdecnumber -I../gdb-7.12/gdb/./libdecnumber -I../gdb-7.12/gdb/gnulib/
↳import -Ibuild-gnulib/import -DTUI=1 -I/rtems-source-builder/rtems/build/tmp/
↳sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -I/
↳System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -I/
↳System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall
↳-Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -Wno-switch -Wno-
↳char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-
↳variable -Wno-sign-compare -Wno-write-strings -Wno-narrowing -Wformat-
↳nonliteral -c -o compile-object-load.o -MT compile-object-load.o -MMD -MP -MF .
↳deps/compile-object-load.Tpo ../gdb-7.12/gdb/compile/compile-object-load.c
143 /usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/
↳tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -

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144 ↪g -O2 -I. -I../gdb-7.12/gdb -I../gdb-7.12/gdb/common -I../gdb-7.12/
145 ↪gdb/config -DLOCALEDIR="\"/rtems-source-builder/rtems/~rtems/4.12/share/
146 ↪locale\"" -DHAVE_CONFIG_H -I../gdb-7.12/gdb/./include/opcode -I../gdb-7.
147 ↪12/gdb/./opcodes/.. -I../gdb-7.12/gdb/./readline/.. -I../gdb-7.12/gdb/..
148 ↪/zlib -I../bfd -I../gdb-7.12/gdb/./bfd -I../gdb-7.12/gdb/./include -I../
149 ↪libdecnumber -I../gdb-7.12/gdb/./libdecnumber -I../gdb-7.12/gdb/gnulib/
150 ↪import -Ibuild-gnulib/import -DTUI=1 -I/rtems-source-builder/rtems/build/tmp/
151 ↪sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -I/
152 ↪System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -I/
153 ↪System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall
154 ↪-Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -Wno-switch -Wno-
155 ↪char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-
156 ↪variable -Wno-sign-compare -Wno-write-strings -Wno-narrowing -Wformat-
157 ↪nonliteral -c -o compile-object-run.o -MT compile-object-run.o -MMD -MP -MF .
158 ↪deps/compile-object-run.Tpo ../gdb-7.12/gdb/compile/compile-object-run.c
159 clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is
160 ↪deprecated
161 clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is
162 ↪deprecated
163 warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-
164 ↪Wunused-parameter'? [-Wunknown-warning-option]
165 warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-
166 ↪Wunused-const-variable'? [-Wunknown-warning-option]
167 warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-
168 ↪Wunused-parameter'? [-Wunknown-warning-option]
169 warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-
170 ↪Wunused-const-variable'? [-Wunknown-warning-option]
171 2 warnings generated.
172 /usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/
173 ↪tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -
174 ↪g -O2 -I. -I../gdb-7.12/gdb -I../gdb-7.12/gdb/common -I../gdb-7.12/
175 ↪gdb/config -DLOCALEDIR="\"/rtems-source-builder/rtems/~rtems/4.12/share/
176 ↪locale\"" -DHAVE_CONFIG_H -I../gdb-7.12/gdb/./include/opcode -I../gdb-7.
177 ↪12/gdb/./opcodes/.. -I../gdb-7.12/gdb/./readline/.. -I../gdb-7.12/gdb/..
178 ↪/zlib -I../bfd -I../gdb-7.12/gdb/./bfd -I../gdb-7.12/gdb/./include -I../
179 ↪libdecnumber -I../gdb-7.12/gdb/./libdecnumber -I../gdb-7.12/gdb/gnulib/
180 ↪import -Ibuild-gnulib/import -DTUI=1 -I/rtems-source-builder/rtems/build/tmp/
181 ↪sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -I/
182 ↪System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -I/
183 ↪System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall
184 ↪-Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -Wno-switch -Wno-
185 ↪char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-
186 ↪variable -Wno-sign-compare -Wno-write-strings -Wno-narrowing -Wformat-
187 ↪nonliteral -c -o compile-loc2c.o -MT compile-loc2c.o -MMD -MP -MF .deps/
188 ↪compile-loc2c.Tpo ../gdb-7.12/gdb/compile/compile-loc2c.c
189 clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is
190 ↪deprecated
191 warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-
192 ↪Wunused-parameter'? [-Wunknown-warning-option]

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154 warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-
    ↳Wunused-const-variable'? [-Wunknown-warning-option]
155 2 warnings generated.
156 /usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/
    ↳tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -
    ↳g -O2 -I. -I../gdb-7.12/gdb -I../gdb-7.12/gdb/common -I../gdb-7.12/
    ↳gdb/config -DLOCALEDIR="\"/rtems-source-builder/rtems/~rtems/4.12/share/
    ↳locale\"" -DHAVE_CONFIG_H -I../gdb-7.12/gdb/./include/opcode -I../gdb-7.
    ↳12/gdb/./opcodes/.. -I../gdb-7.12/gdb/./readline/.. -I../gdb-7.12/gdb/..
    ↳/zlib -I../bfd -I../gdb-7.12/gdb/./bfd -I../gdb-7.12/gdb/./include -I../
    ↳libdecnumber -I../gdb-7.12/gdb/./libdecnumber -I../gdb-7.12/gdb/gnulib/
    ↳import -Ibuild-gnulib/import -DTUI=1 -I/rtems-source-builder/rtems/build/tmp/
    ↳sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -I/
    ↳System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -I/
    ↳System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall
    ↳-Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -Wno-switch -Wno-
    ↳char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-
    ↳variable -Wno-sign-compare -Wno-write-strings -Wno-narrowing -Wformat-
    ↳nonliteral -c -o compile-c-support.o -MT compile-c-support.o -MMD -MP -MF .
    ↳deps/compile-c-support.Tpo ../gdb-7.12/gdb/compile/compile-c-support.c
157 clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is
    ↳deprecated
158 2 warnings generated.
159 warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-
    ↳Wunused-parameter'? [-Wunknown-warning-option]
160 warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-
    ↳Wunused-const-variable'? [-Wunknown-warning-option]
161 /usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/
    ↳tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -
    ↳g -O2 -I. -I../gdb-7.12/gdb -I../gdb-7.12/gdb/common -I../gdb-7.12/
    ↳gdb/config -DLOCALEDIR="\"/rtems-source-builder/rtems/~rtems/4.12/share/
    ↳locale\"" -DHAVE_CONFIG_H -I../gdb-7.12/gdb/./include/opcode -I../gdb-7.
    ↳12/gdb/./opcodes/.. -I../gdb-7.12/gdb/./readline/.. -I../gdb-7.12/gdb/..
    ↳/zlib -I../bfd -I../gdb-7.12/gdb/./bfd -I../gdb-7.12/gdb/./include -I../
    ↳libdecnumber -I../gdb-7.12/gdb/./libdecnumber -I../gdb-7.12/gdb/gnulib/
    ↳import -Ibuild-gnulib/import -DTUI=1 -I/rtems-source-builder/rtems/build/tmp/
    ↳sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -I/
    ↳System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -I/
    ↳System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall
    ↳-Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -Wno-switch -Wno-
    ↳char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-
    ↳variable -Wno-sign-compare -Wno-write-strings -Wno-narrowing -Wformat-
    ↳nonliteral -c -o inflow.o -MT inflow.o -MMD -MP -MF .deps/inflow.Tpo ../gdb-
    ↳7.12/gdb/inflow.c
162 clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is
    ↳deprecated
163 2 warnings generated.
164 ../gdb-7.12/gdb/compile/compile-loc2c.c:733:6: warning: variable 'uoffset' is
    ↳uninitialized when used here [-Wuninitialized]

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165 uoffset += dwarf2_per_cu_text_offset (per_cu);
166 ^~~~~~
167 ../../gdb-7.12/gdb/compile/compile-loc2c.c:671:23: note: initialize the variable
    ↳ 'uoffset' to silence this warning
168 uint64_t uoffset, reg;
169 ^
170 = 0
171 warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-
    ↳ Wunused-parameter'? [-Wunknown-warning-option]
172 warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-
    ↳ Wunused-const-variable'? [-Wunknown-warning-option]
173 2 warnings generated.
174 2 warnings generated.
175 17 warnings generated.
176 2 warnings generated.
177 3 warnings generated.
178 2 warnings generated.
179 99 warnings generated.
180 Making init.c
181 /usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/
    ↳ tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -
    ↳ g -O2 -I. -I../gdb-7.12/gdb -I../gdb-7.12/gdb/common -I../gdb-7.12/
    ↳ gdb/config -DLOCALEDIR="//rtems-source-builder/rtems/~rtems/4.12/share/
    ↳ locale\\" -DHAVE_CONFIG_H -I../gdb-7.12/gdb/./include/opcode -I../gdb-7.
    ↳ 12/gdb/./opcodes/.. -I../gdb-7.12/gdb/./readline/.. -I../gdb-7.12/gdb/..
    ↳ /zlib -I../bfd -I../gdb-7.12/gdb/./bfd -I../gdb-7.12/gdb/./include -I../
    ↳ libdecnumber -I../gdb-7.12/gdb/./libdecnumber -I../gdb-7.12/gdb/gnulib/
    ↳ import -Ibuild-gnulib/import -DTUI=1 -I/rtems-source-builder/rtems/build/tmp/
    ↳ sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -I/
    ↳ System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -I/
    ↳ System/Library/Frameworks/Python.framework/Versions/2.7/include/python2.7 -Wall
    ↳ -Wpointer-arith -Wno-unused -Wunused-value -Wunused-function -Wno-switch -Wno-
    ↳ char-subscripts -Wempty-body -Wunused-but-set-parameter -Wunused-but-set-
    ↳ variable -Wno-sign-compare -Wno-write-strings -Wno-narrowing -Wformat-
    ↳ nonliteral -c -o init.o -MT init.o -MMD -MP -MF .deps/init.Tpo init.c
182 clang: warning: treating 'c' input as 'c++' when in C++ mode, this behavior is
    ↳ deprecated
183 warning: unknown warning option '-Wunused-but-set-parameter'; did you mean '-
    ↳ Wunused-parameter'? [-Wunknown-warning-option]
184 warning: unknown warning option '-Wunused-but-set-variable'; did you mean '-
    ↳ Wunused-const-variable'? [-Wunknown-warning-option]
185 2 warnings generated.
186 rm -f gdb
187 /usr/bin/c++ -O2 -pipe -fbracket-depth=1024 -I/rtems-source-builder/rtems/build/
    ↳ tmp/sb-peer/4.12/rtems-powerpc/rtems-source-builder/rtems/~rtems/4.12/include -
    ↳ g -O2 -Wl,-no_pie -L/rtems-source-builder/rtems/build/tmp/sb-peer/4.12/rtems-
    ↳ powerpc/rtems-source-builder/rtems/~rtems/4.12/lib \
188 -o gdb gdb.o rs6000-tdep.o ppc-sysv-tdep.o solib-svr4.o ravenscar-thread.o ppc-
    ↳ ravenscar-thread.o ser-base.o ser-unix.o ser-pipe.o ser-tcp.o remote.o dcache.

```

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```

→o tracepoint.o ax-general.o ax-gdb.o remote-fileio.o remote-notif.o ctf.o_
→tracefile.o tracefile-tfile.o remote-sim.o cli-dump.o cli-decode.o cli-script.o_
→cli-cmds.o cli-setshow.o cli-logging.o cli-interp.o cli-utils.o mi-out.o mi-
→console.o mi-cmds.o mi-cmd-catch.o mi-cmd-env.o mi-cmd-var.o mi-cmd-break.o mi-
→cmd-stack.o mi-cmd-file.o mi-cmd-disas.o mi-symbol-cmds.o mi-cmd-target.o mi-
→cmd-info.o mi-interp.o mi-main.o mi-parse.o mi-getopt.o tui-command.o tui-data.
→o tui-disasm.o tui-file.o tui-hooks.o tui-interp.o tui-io.o tui-layout.o tui-
→out.o tui-regs.o tui-source.o tui-stack.o tui-win.o tui-windata.o tui-
→wingeneral.o tui-winsource.o tui.o python.o py-arch.o py-auto-load.o py-block.o_
→py-bpevent.o py-breakpoint.o py-cmd.o py-continueevent.o py-xmethods.o py-event.
→o py-evtregistry.o py-evts.o py-exitedevent.o py-finishbreakpoint.o py-frame.o_
→py-framefilter.o py-function.o py-gdb-readline.o py-inferior.o py-infevents.o_
→py-inftthread.o py-lazy-string.o py-linetable.o py-newobjfileevent.o py-objfile.
→o py-param.o py-prettyprint.o py-progspace.o py-signalevent.o py-stopevent.o py-
→symbol.o py-symtab.o py-threadevent.o py-type.o py-unwind.o py-utils.o py-value.
→o py-varobj.o guile.o elfread.o stap-probe.o dtrace-probe.o posix-hdep.o posix-
→strerror.o c-exp.o cp-name-parser.o ada-exp.o jv-exp.o d-exp.o f-exp.o go-exp.o_
→m2-exp.o p-exp.o rust-exp.o version.o annotate.o addrmap.o auto-load.o auxv.o_
→agent.o bfd-target.o blockframe.o breakpoint.o break-catch-sig.o break-catch-
→throw.o break-catch-syscall.o findvar.o regcache.o cleanups.o charset.o_
→continuations.o corelow.o disasm.o dummy-frame.o dfp.o source.o value.o eval.o_
→valops.o valarith.o valprint.o printcmd.o block.o symtab.o psymtab.o symfile.o_
→symfile-debug.o symmisc.o linespec.o dictionary.o namespace.o location.o_
→infcall.o infcmd.o infrun.o expprint.o environ.o stack.o tid-parse.o thread.o_
→thread-fsm.o exceptions.o extension.o filesystem.o filestuff.o inf-child.o_
→interps.o minidebug.o main.o macrotab.o macrocmd.o macroexp.o macroscope.o mi-
→common.o event-loop.o event-top.o inf-loop.o completer.o gdbarch.o arch-utils.o_
→gdbtypes.o gdb_bfd.o gdb_obstack.o osabi.o copying.o memattr.o mem-break.o_
→target.o target-dcache.o parse.o language.o build-id.o buildsym.o findcmd.o std-
→regs.o signals-state-save-restore.o signals.o exec.o reverse.o bcache.o_
→objfiles.o observer.o minsyms.o maint.o demangle.o dbxread.o coffread.o coff-pe-
→read.o dwarf2read.o mipsread.o stabsread.o corefile.o dwarf2expr.o dwarf2loc.o_
→dwarf2-frame.o dwarf2-frame-tailcall.o ada-lang.o c-lang.o d-lang.o f-lang.o_
→objc-lang.o ada-tasks.o ada-varobj.o c-varobj.o ui-out.o cli-out.o varobj.o vec.
→o go-lang.o go-valprint.o go-typeprint.o jv-lang.o jv-valprint.o jv-typeprint.o_
→jv-varobj.o m2-lang.o opencl-lang.o p-lang.o p-typeprint.o p-valprint.o_
→selftest.o sentinel-frame.o complaints.o typeprint.o ada-typeprint.o c-
→typeprint.o f-typeprint.o m2-typeprint.o ada-valprint.o c-valprint.o cp-
→valprint.o d-valprint.o f-valprint.o m2-valprint.o ser-event.o serial.o_
→mdebugread.o top.o utils.o ui-file.o user-regs.o frame.o frame-unwind.o_
→doublest.o frame-base.o inline-frame.o gnu-v2-abi.o gnu-v3-abi.o cp-abi.o cp-
→support.o cp-namespace.o d-namespace.o reggroups.o rust-lang.o trad-frame.o_
→tramp-frame.o solib.o solib-target.o prologue-value.o memory-map.o memrange.o_
→xml-support.o xml-syscall.o xml-utils.o target-descriptions.o target-memory.o_
→xml-tdesc.o xml-builtin.o inferior.o osdata.o gdb_usleep.o record.o record-full.
→o gcore.o gdb_vecs.o jit.o progspace.o skip.o probe.o common-utils.o buffer.o_
→ptid.o gdb-dlfcn.o common-agent.o format.o registry.o btrace.o record-btrace.o_
→waitstatus.o print-utils.o rsp-low.o errors.o common-debug.o debug.o common-
→exceptions.o btrace-common.o fileio.o common-regcache.o compile.o compile-c-

```

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```

189 ↪symbols.o compile-c-types.o compile-object-load.o compile-object-run.o compile-
↪loc2c.o compile-c-support.o inflow.o    init.o \
189 ../sim/ppc/libsim.a ../readline/libreadline.a ../opcodes/libopcodes.a ../bfd/
↪libbfd.a -L../zlib -lz ../liberty/libliberty.a ../libdecnumber/libdecnumber.
↪a      -lncurses -lm      -L/System/Library/Frameworks/Python.framework/Versions/2.7/
↪lib/python2.7/config -ldl -framework CoreFoundation -lpython2.7 -u _PyMac_Error_
↪/System/Library/Frameworks/Python.framework/Versions/2.7/Python -lexpat      ../
↪libliberty/libliberty.a build-gnulib/import/libgnu.a -liconv
190 Undefined symbols for architecture x86_64:
191 "_error", referenced from:
192 _sim_io_printf_filtered in libsim.a(sim_calls.o)
193 _sim_load in libsim.a(sim_calls.o)
194 _sim_create_inferior in libsim.a(sim_calls.o)
195 _sim_io_read_stdin in libsim.a(sim_calls.o)
196 _sim_io_write_stdout in libsim.a(sim_calls.o)
197 _sim_io_write_stderr in libsim.a(sim_calls.o)
198 _sim_io_flush_stdoutoutput in libsim.a(sim_calls.o)
199 ...
200 (maybe you meant: _device_error, __Z20host_to_fileio_errori , _bfd_get_error_
↪handler , __bfd_default_error_handler , _bfd_set_error_handler , _bfd_set_error_
↪program_name , __Z28dwarf_reg_to_regnum_or_errorP7gdbarchm , __Z29observer_
↪detach_command_errorP8observer , _sim_io_error , _deprecated_error_begin_hook ,
↪__Z35throw_max_completions_reached_errorv , __Z25type_name_no_tag_or_
↪errorP4type , __Z12memory_error18target_xfer_statusm , __bfd_error_handler , __
↪Z20annotate_error_beginv , __Z19compile_rx_or_errorP17re_pattern_bufferPKcS2_ ,
↪__Z12catch_errorsPFiPvES_Pc11return_mask , __Z20memory_error_message18target_
↪xfer_statusP7gdbarchm , __Z11range_errorPKcz , __Z13gdb_xml_errorP14gdb_xml_
↪parserPKcz , __Z29observer_notify_command_errorv , _gdbpy_gdb_memory_error , _
↪bfd_set_error , __Z23invalid_thread_id_errorPKc , __Z11throw_error6errorsPKcz ,
↪_gdbpy_gdb_error , __Z14gdb_bfd_errmsg9bfd_errorPPc , __Z29observer_attach_
↪command_errorPFvvE , __Z27gdbpy_print_python_errors_pv , _bfd_get_error , __
↪Z14internal_errorPKciS0_z , __Z17get_regcomp_erroriP17re_pattern_buffer , __
↪Z14annotate_errorv )
201 ld: symbol(s) not found for architecture x86_64
202 clang: error: linker command failed with exit code 1 (use -v to see invocation)
203 make[2]: *** [gdb] Error 1
204 make[1]: *** [all-gdb] Error 2
205 make: *** [all] Error 2
206 shell cmd failed: /bin/sh -ex /rtems-source-builder/rtems/build/powerpc-rtems4.
↪12-gdb-7.12-x86_64-apple-darwin14.5.0-1/doit
207 error: building powerpc-rtems4.12-gdb-7.12-x86_64-apple-darwin14.5.0-1

```

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-06-23T05:33:59.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"21a9010ebf9de8a23cdaf35055eb173fd94d588f/rtems-source-builder" 21a9010/rtems-source-builder]:

```
1 Fix GDB 7.12 build on Darwin
2
3 Close #3052.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.697 3047 - Remove docs directory from the RSB

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3047                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2017-06-14T00:10:47.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3047">https://gitlab.rtems.org/rtems/rtems/-/issues/3047</a> |
| <b>Merges</b>      | 0                                                                                                                   |

The documentation has been moved to `rtems-docs.git` repo. Remove the docs directory and asciidocs from RTEMS.

**Author:** Chris Johns 2017-08-03T06:08:57.000Z

Removing the doc directory means I can remove asciidoc from the source-builder/sb directory and make the RSB smaller. This means I need to remove the asciidoc report type.

Any issues with this?

**Author:** Gedare Bloom 2017-08-03T11:58:28.000Z

No issues from me. I think it is time.

**Author:** Trac Migrate 2017-08-07T00:08:40.000Z

- **Resolution** set to ~"fixed"



- **Status** changed from *assigned* to *closed*

In [changeset:"8b96e17c8abf61d97dd224b23370dc148f32fe3c/rtems-source-builder" 8b96e17/rtems-source-builder]:

```

1 doc: Remove in source documentation and the asciidoc package
2
3 The RSB documentation is now in ReST format and part of the RTEMS
4 Documentation project. See https://docs.rtems.org/.
5
6 Remove support for the GPL based asciidoc tool and remove the
7 asciidoc package from the RSB.
8
9 Add the Python Markdown package and update the reporter to use
10 Markdown for HTML generation. The resulting HTML report is a single
11 self contained file.
12
13 Closes #3047.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.698 3046 - 4.12/rtems-moxie missing release number.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3046                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-06-13T05:51:04.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5                               |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3046">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3046</a> |
| <b>Merges</b>      | 0                                                                                                                             |

4.12/rtems-moxie is reporting

```

1 cleaning: dtc-1.4.1-x86_64-freebsd11.0-1
2 cleaning: expat-2.1.0-x86_64-freebsd11.0-1
3 cleaning: moxie-rtems4.12-binutils-2.28-x86_64-freebsd11.0-
4 cleaning: moxie-rtems4.12-gcc-7.1.0-newlib-2.5.0.20170519-x86_64-freebsd11.0-
5 cleaning: moxie-rtems4.12-gdb-7.12-x86_64-freebsd11.0-
6 cleaning: rtems-tools-HEAD-
```

There is no -1 or whatever at the end of the lines.

---

**Author:** Joel Sherrill 2017-10-12T02:27:31.000Z

---

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Fixed but didn't automatically update.

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.699 3043 - 4.11/rtems-nios2 does not build on Windows.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3043                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-06-12T23:33:05.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3043">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3043</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The attached RSB report details the failure.

The path to ranlib is the cwd (see make[5] path) plus the relative path (see the report) which is 308 characters in length and this exceeds the max path length for the Win32 API and binutils reports this as a No such file.

- [rsb-report-nios2-rtems4.11-gcc-4.9.3-newlib-2.2.0.20150423-x86\\_64-w64-mingw32-1.txt](#)

---

**Author:** Chris Johns 2017-06-12T23:33:31.000Z

---

- **Attachment** [rsb-report-nios2-rtems4.11-gcc-4.9.3-newlib-2.2.0.20150423-x86\\_64-w64-mingw32-1.txt](#) added

RTEMS 4.11 Windows RSB failure report for NIOS2

---

**Author:** Chris Johns 2017-08-14T01:00:40.000Z

---

- **Milestone** set to %"4.12.0"
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Patch fixes for Windows have been merged.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-09T06:27:14.000Z |
|------------------------------------------------------|

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.700 3036 - CPU\_CMP() implementation is not in line with FreeBSD

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3036                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-06-09T05:50:04.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, smp, tickettype::defect, tool::newlib, version::5                              |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3036">https://gitlab.rtems.org/rtems/rtems/-/issues/3036</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

According to the FreeBSD man page we have:

<https://www.freebsd.org/cgi/man.cgi?query=cpuset&sektion=9&apropos=0&manpath=FreeBSD+11.0-RELEASE+and+Ports>

The CPU\_CMP() macro returns true if cpuset1 is NOT equal to cpuset2.

However, in Newlib we had:

```

1 /* return 1 if the sets set1 and set2 are equal, otherwise return 0 */
2 static __inline int CPU_CMP( const cpu_set_t *set1, const cpu_set_t *set2 )
3 {
4 return CPU_EQUAL(set1, set2);
5 }

```

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-06-09T05:51:35.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [\[changeset:"f7d0f5e1adeaf06347e4532bdb7223803584e2f4/rtems"](https://gitlab.rtems.org/rtems/rtems/-/changeset/f7d0f5e1adeaf06347e4532bdb7223803584e2f4/rtems)  
f7d0f5e/rtems]:

```

1 spcpuset01: Update due to CPU_CMP() changes
2
3 Close #3036.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.701 3032 - CPU\_NAND\_S() implementation is not in line with FreeBSD

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3032                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-06-07T06:47:21.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, smp, tickettype::defect, tool::newlib, version::4.11                                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3032">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3032</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

According to the FreeBSD man page we have:

<https://www.freebsd.org/cgi/man.cgi?query=cpuset&sektion=9&apropos=0&manpath=FreeBSD+11.0-RELEASE+and+Ports>

The CPU\_NAND() macro removes CPUs in src from dst. (It is the cpuset(9) equivalent of the scalar: `dst &= ~ src;`)

However, in Newlib we had:

```

1 static __inline void CPU_NAND_S(size_t setsize, cpu_set_t *destset,
2 const cpu_set_t *srcset1, const cpu_set_t *srcset2)
3 {
4 cpu_set_word_t *wdest = &destset->__bits[0];
5 const cpu_set_word_t *wsrc1 = &srcset1->__bits[0];
6 const cpu_set_word_t *wsrc2 = &srcset2->__bits[0];
7 size_t n = setsize / sizeof(*wdest);
8 size_t i;
9
10 for (i = 0; i < n; ++i)
11 wdest[i] = ~(wsrc1[i] & wsrc2[i]);
12 }

```

**Author:** Trac Migrate 2017-06-07T13:30:00.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"b06dbb26588ffb0db8e7873a01753ecdd10d4569/rtems" b06dbb26/rtems]:

```
1 spcpuset01: Update due to CPU_NAND_S() changes
2
3 Close #3032.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.702 3025 - m32c/m32csim does not build linpack-pc.c

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3025                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-05-24T00:04:57.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::testing, tickettype::defect, version::5                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3025">https://gitlab.rtems.org/rtems/rtems/-/issues/3025</a> |
| <b>Merges</b>      | 0                                                                                                                   |

1 tests m32c/m32csim build: configure: /opt/work/chris/rtems/kernel/rtems.git/configure  
 -target=m32c-rtems4.12 -enable-rtemsbsp=m32csim -prefix=/opt/rtems/4.12-enable-tests  
 error: testsuites/benchmarks/linpack/linpack-pc.c:253:33: error: storage size of 'a' isn't con-  
 stant error: testsuites/benchmarks/linpack/linpack-pc.c:253:21: error: storage size of 'aa' isn't  
 constant

**Author:** Joel Sherrill 2017-05-24T14:29:26.000Z

Disable it for this BSP. This test is almost certainly too large in some way for the m32c. I already disabled it for a number of other BSPs for similar reasons.

**Author:** Chris Johns 2017-05-28T21:58:39.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

The test has been disabled.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.703 3023 - Parameter of CPU\_COPY() are in wrong order

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3023                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-05-19T12:02:29.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, smp, tickettype::defect, tool::newlib, version::5                                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3023">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3023</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

According to the FreeBSD man page we have:

<https://www.freebsd.org/cgi/man.cgi?query=cpuset&sektion=9&apropos=0&manpath=FreeBSD+11.0-RELEASE+and+Ports>

```
1 CPU_COPY(cpuset_t *from, cpuset_t *to);
```

However, in Newlib we have:

```
1 static __inline void CPU_COPY( cpu_set_t *dest, const cpu_set_t *src )
2 {
3 *dest = *src;
4 }
```

**Author:** Trac Migrate 2017-05-19T12:02:39.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber

- **Status** changed from *new* to *accepted*

**Author:** Trac Migrate 2017-06-07T13:29:45.000Z

Original author: sebastian.huber

In [changeset:"836f4545dcb75cb399bb498e7a62c20541dac84f/rtems" 836f454/rtems]:

```
1 Fix CPU_COPY() usage
2
3 The original CPU_COPY() support of Newlib <sys/cpuset.h> had the
4 parameters in the wrong order. This is fixed in Newlib since
5 2017-05-22.
6
7 Update #3023.
```

**Author:** Trac Migrate 2017-06-07T13:39:58.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.704 3018 - RSB cannot compile tool chain in CentOS 7.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3018                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-05-10T00:39:30.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::task, tool::rtems-source-builder, version::5                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3018">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3018</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: phongvanpham

In CentOS 6.8, everything works fine. But in CentOS 7, it does not. Initial investigation (I did a while back around New Year time) looks like later version of texinfo has an issue with autoconf. Enclosed is the email Chris Johns replied but I didn't follow through since I switched to CentOS 6.8 for my work.

“Looks to me like the RSB is trying to download autoconf 2.69-1 and from <https://bugs.debian.org/cgi-bin/bugreport.cgi?bug=711297>

Looks like this autoconf version has a bug. I also noticed my autoconf version is 2.69-11; however, from what I am reading, RSB will download its own version independent of what user has.”

Chris John replies:

“I guess a recent texinfo version has exposed the issue. I suggest you get the patch from the link in the bug report, create a patch for rtems-tools.git to add the autoconf patch, then create a patch to the RSB adding the patch to the autoconf build, finally ‘git send-email’ the patches to [devel@rtems.org](mailto:devel@rtems.org) for review.”

- [rsb-report-autoconf-2.69-x86\\_64-linux-gnu-1.txt](#)

---

**Author:** Trac Migrate 2017-05-10T00:40:43.000Z

---

Original author: phongvanpham

- **Attachment** [rsb-report-autoconf-2.69-x86\\_64-linux-gnu-1.txt](#) added

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: phongvanpham

- **Milestone** changed from %”4.12” to %”4.12.0”

---

**Author:** Chris Johns 2017-08-23T22:55:10.000Z

---

Original author: phongvanpham

Joel, is this still valid?

---

**Author:** Trac Migrate 2017-08-24T08:18:25.000Z

---

Original author: phongvanpham

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

I built all tools today on a CentOS 7 machine without errors.

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: phongvanpham



- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.705 3017 - improvement in pci.h

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3017                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-05-09T23:52:49.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::worksforme, rtems::score, tickettype::task, version::5                                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3017">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3017</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: phongvanpham

In pci.h, there are references to BSP\_pci\_configuration data structure which is in pci.c. However, in this file, there are also references to detect\_host\_bridge () in detect\_raven\_bridge.c. For folks that are just interested in pci\_read\_config\_dword() + its brothers, all they need is to include pci.h and content for where BSP\_pci\_configuration is defined. The rest of the stuff in pci.c should be separate. Or in another word, data structures and #defines involving with BSP\_pci\_configuration needs to be in separate files rather all stuffed in pci.c

I currently do not need this functionality for my BSP (nor do I able to test it), so I cannot modify code and submit. It is best someone who can test the code to make the code change. Or else, just shelf it under the table and/or close this ticket.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: phongvanpham

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Joel Sherrill 2017-07-13T13:46:29.000Z

Original author: phongvanpham

- **Resolution** set to ~”worksforme”
- **Status** changed from *new* to *closed*

This shouldn’t be an issue since we compile and link with per-function-sections. With this set of options, a function is only included in an executable if it is actually referenced – not just if it is in a file with a referenced symbol.

FWIW Users using this option with large C++ applications have reported seeing their executables drop in size by half. C applications did get smaller but the RTEMS tests didn’t show a huge improvement. Still it did drop some code out.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: phongvanpham

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.706 3016 - missing a couple register names + a `#ifndef __ASM__` around serial.h inclusion

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3016                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-05-09T23:38:34.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | bsp, priority::normal, resolution::fixed, tickettype::defect, version::5                                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3016">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3016</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: phongvanpham

In `rtemscsrcplibchipserialns16550_p.h`, need to add a couple register and `#ifndef` around serial.h

- [0001-missing-a-couple-register-names-a-ifndef\\_\\_ASM\\_\\_-aroun.patch](#)
- [ns16550\\_p.h](#)
- [ns16550\\_p.h.orig](#)

**Author:** Trac Migrate 2017-05-09T23:46:27.000Z

Original author: phongvanpham

- **Attachment** [ns16550\\_p.h](#) added

Baseline of this version is 4.12

**Author:** Trac Migrate 2017-05-09T23:46:47.000Z

Original author: phongvanpham

- **Attachment** [ns16550\\_p.h.orig](#) added

This is the original file (before change) for diff'ing purposes to see code delta

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: phongvanpham

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-05-12T05:14:21.000Z

Original author: phongvanpham

Please generate the Git patch with your real name and a valid e-mail address.

This ns16550\_p.h is a private header file, why do you have to change it?

**Author:** Trac Migrate 2017-05-12T18:43:53.000Z

Original author: phongvanpham

- **Attachment** [0001-missing-a-couple-register-names-a-ifdef\\_ASM\\_\\_-around.patch](#) added

patch

**Author:** Trac Migrate 2017-05-14T03:50:58.000Z

Original author: phongvanpham

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In [changeset:”f219adc3f8d38a13a14c6f9900177204f7bb05b3/rtems”f219adc/rtems]:

```
1 missing a couple register names + a #ifndef_ASM__ around serial.h_
   ↳ inclusion
2
3 Closes #3016.
```

**Author:** Trac Migrate 2017-05-17T16:15:26.000Z

Original author: phongvanpham

Replying to [Sebastian Huber](#):

Please generate the Git patch with your real name and a valid e-mail address. This ns16550\_p.h is a private header file, why do you have to change it?

The changes are b/c a couple of register names are missing. Yes one can use another name with the intended value; however, this is unmaintainable code. As you can see, there are different names of the same value (register number) in the file.

The reason to use #ifndef here is b/c I intend to use the file elsewhere in my BSP. Basically, I cherry pick code to maximize reuse in order to meet my needs. If you object to this particular change, (thus my needs are not

met,) I will copy the file to my BSP to resolve my problem; thus a lack of sharing/reusing.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: phongvanpham

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.707 3015 - Add support for IBM PPC 750 chip

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3015                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-05-09T23:25:44.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:powerpc, library::libcpu, priority::normal, resolution::fixed, ticket-type::task, version::5                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3015">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3015</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: phongvanpham

Currently MPC750 chip is supported. However, PPC750 (from IBM) is very close to MPC750 except minor differences. Enclosed is the delta to support PPC750.

- [0001-Add-support-for-IBM-PowerPC-750-chip.patch](#)
- [0001-Reuse-mpc750-category-instead-of-creating-new-one-an.patch](#)
- [cpuIdent.c](#)
- [cpuIdent.c.orig](#)
- [cpuIdent.h](#)
- [cpuIdent.h.orig](#)
- [ppc\\_exc\\_categories.c](#)
- [ppc\\_exc\\_categories.c.orig](#)

**Author:** Trac Migrate 2017-05-09T23:29:10.000Z

Original author: phongvanpham

- **Attachment** [cpuIdent.c](#) added

Baseline of this version is 4.12

---

**Author:** Trac Migrate 2017-05-09T23:29:39.000Z

---

Original author: phongvanpham

- **Attachment** [cpuIdent.c.orig](#) added

This is the original file (before change) for diff'ing purposes to see code delta

---

**Author:** Trac Migrate 2017-05-09T23:29:58.000Z

---

Original author: phongvanpham

- **Attachment** [cpuIdent.h](#) added

Baseline of this version is 4.12

---

**Author:** Trac Migrate 2017-05-09T23:30:18.000Z

---

Original author: phongvanpham

- **Attachment** [cpuIdent.h.orig](#) added

This is the original file (before change) for diff'ing purposes to see code delta

---

**Author:** Trac Migrate 2017-05-09T23:30:38.000Z

---

Original author: phongvanpham

- **Attachment** [ppc\\_exc\\_categories.c](#) added

Baseline of this version is 4.12

---

**Author:** Trac Migrate 2017-05-09T23:31:01.000Z

---

Original author: phongvanpham

- **Attachment** [ppc\\_exc\\_categories.c.orig](#) added

This is the original file (before change) for diff'ing purposes to see code delta

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: phongvanpham

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-05-12T05:16:56.000Z

---

Original author: phongvanpham

Has the existing PPC 740 a performance monitor exception? Maybe use one category for both variants.

**Author:** Trac Migrate 2017-05-12T18:39:29.000Z

Original author: phongvanpham

- **Attachment** [0001-Add-support-for-IBM-PowerPC-750-chip.patch](#) added patch

**Author:** Trac Migrate 2017-05-17T16:12:53.000Z

Original author: phongvanpham

Replying to [Sebastian Huber](#):

Has the existing PPC 740 a performance monitor exception? Maybe use one category for both variants.

Current ppc\_booke\_category\_table (exception category for PPC 740) code does not have exception vector 0x1700 supported. Whether or not PPC 740 does have exception vector 0x1700 is unknown since I am not working on that chip nor do I have the datasheet for it. For IBM PowerPC750, exception 0x1700 is Thermal Management. ASM\_60X\_ITM\_VECTOR is defined to be 0x17

**Author:** Joel Sherrill 2017-05-17T16:25:08.000Z

Original author: phongvanpham

I did a quick google and turned up this:

<https://people.cs.clemson.edu/~mark/ppc750.pdf>

Which has 740 and 750 in the title. It lists 0x1700 as Thermal Management and doesn't appear to distinguish 740 from 750.

One odd thought is whether there is an MPC740 which is different from the PPC740. Clearly from the "About This Book" section, they are nearly identical:

```
1 The primary objective of this user\ |md_0_8217|\ s manual is to define_
  ↳ the functionality of the PowerPC
2 750\ |md_0_8482|\ and PowerPC 740\ |md_0_8482|\ microprocessors for_
  ↳ use by software and hardware developers.
3 Although the emphasis of this manual is upon the 750, unless otherwise_
  ↳ noted, all
4 information here applies to 740.
```

Maybe that reference helps.

**Author:** Trac Migrate 2017-05-17T16:33:34.000Z

Original author: phongvanpham

Replying to **Joel Sherrill**:

I did a quick google and turned up this: <https://people.cs.clemson.edu/~mark/ppc750.pdf> Which has 740 and 750 in the title. It lists 0x1700 as Thermal Management and doesn't appear to distinguish 740 from 750. One odd thought is whether there is an MPC740 which is different from the PPC740. Clearly from the "About This Book" section, they are nearly identical: {{{ The primary objective of this user's manual is to define the functionality of the PowerPC 750™ and PowerPC 740™ microprocessors for use by software and hardware developers. Although the emphasis of this manual is upon the 750, unless otherwise noted, all information here applies to 740. }}} Maybe that reference helps.

Yes, that reference does help. Page 182 (where thermal exception management is described) states it is "750-specific".

---

**Author:** Trac Migrate 2017-05-22T17:16:07.000Z

---

Original author: phongvanpham

Hi Developers,

What is your status on this ticket? Are you accepting the change and I am just waiting for the code to be merged to main line or you are rejecting the change or postponing it to another release at a TBD date?

If the variable names, etc. does not meet your standard, pls. change them to your liking.

---

**Author:** Trac Migrate 2017-05-23T10:09:30.000Z

---

Original author: phongvanpham

Its still not clear to me why you cannot use the mpc\_750\_category\_table for the IBM PPC750.

---

**Author:** Trac Migrate 2017-05-23T16:02:58.000Z

---

Original author: phongvanpham

I copy & paste the two data structures for you convenience.

```
static const ppc_exc_categories mpc_750_category_table = { PPC_BASIC_VECS,
[ASM_60X_SYSMGMT_VECTOR] = PPC_EXC_CLASSIC | PPC_EXC_ASYNC,
[ASM_60X_ADDR_VECTOR] = PPC_EXC_CLASSIC, [ASM_60X_ITM_VECTOR] =
PPC_EXC_CLASSIC, };

static const ppc_exc_categories ppc_750_category_table = { PPC_BASIC_VECS,
[ASM_60X_PERFMON_VECTOR] = PPC_EXC_CLASSIC,
[ASM_60X_SYSMGMT_VECTOR] = PPC_EXC_CLASSIC | PPC_EXC_ASYNC,
```

```
[ASM_60X_ADDR_VECTOR] = PPC_EXC_CLASSIC, [ASM_60X_ITM_VECTOR] =  
PPC_EXC_CLASSIC, };
```

There is 1 additional line in ppc\_750 that is not in mpc750.

---

**Author:** Trac Migrate 2017-05-23T16:20:45.000Z

---

Original author: phongvanpham

Replying to [Sebastian Huber](#):

Its still not clear to me why you cannot use the mpc\_750\_category\_table for the IBM PPC750.

Are you comfortable/Do you prefer that I add [ASM\_60X\_PERFMON\_VECTOR] = PPC\_EXC\_CLASSIC,

to mpc\_750\_category\_table data structure? From the datasheet, it looks like this exception is missing but I only have access to PowerPC 750 chip so I can't verify anything for folks using MPC750.

---

**Author:** Trac Migrate 2017-05-24T05:19:38.000Z

---

Original author: phongvanpham

Replying to [phongvanpham](#):

Replying to [Sebastian Huber](#):

Its still not clear to me why you cannot use the mpc\_750\_category\_table for the IBM PPC750.

Are you comfortable/Do you prefer that I add [ASM\_60X\_PERFMON\_VECTOR] = PPC\_EXC\_CLASSIC, to mpc\_750\_category\_table data structure? From the datasheet, it looks like this exception is missing but I only have access to PowerPC 750 chip so I can't verify anything for folks using MPC750.

Yes, please add this to the mpc\_750\_category\_table.

---

**Author:** Trac Migrate 2017-05-26T00:05:14.000Z

---

Original author: phongvanpham

- **Attachment** [0001-Reuse-mpc750-category-instead-of-creating-new-one-an.patch](#) added

This is the patch to reuse mpc750 category table instead of creating one with ppc750

---

**Author:** Trac Migrate 2017-05-26T00:06:48.000Z

---

Original author: phongvanpham

Replying to [Sebastian Huber](#):



Replying to [phongvanpham](#):

Replying to [Sebastian Huber](#):

Its still not clear to me why you cannot use the  
mpc\_750\_category\_table for the IBM PPC750.

Are you comfortable/Do you prefer that I add  
[ASM\_60X\_PERFMON\_VECTOR] = PPC\_EXC\_CLASSIC,  
to mpc\_750\_category\_table data structure? From the  
datasheet, it looks like this exception is missing but I only  
have access to PowerPC 750 chip so I can't verify anything  
for folks using MPC750.

Yes, please add this to the mpc\_750\_category\_table.

Just completed. See the additional patch attachment.

**Author:** Trac Migrate 2017-05-29T06:07:13.000Z

Original author: phongvanpham

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"848007c068c85b74ddd3ed72b1e4facb84da055f/rtems"  
848007c/rtems]:

```
1 Add support for IBM PowerPC 750 chip.
2
3 Closes #3015.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: phongvanpham

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.708 3014 - interrupt vector indexing is assuming BSP\_INTERRUPT\_VECTOR\_MIN = 0 for this code.

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3014                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-05-09T21:36:24.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | bsp, priority::normal, resolution::fixed, tickettype::defect, version::5                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3014">https://gitlab.rtems.org/rtems/rtems/-/issues/3014</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: phongvanpham

Someone implement bsp\_interrupt\_handler\_index() forgot to update this delta in rtemscsrc/libbspsharedsrc/irq-generic.c:bsp\_interrupt\_allocate\_handler\_index(). See attachment.

- [0001-interrupt-vector-indexing-is-assuming-BSP\\_INTERRUPT\\_.patch](#)
- [irq-generic.c](#)
- [irq-generic.c.orig](#)

**Author:** Trac Migrate 2017-05-09T21:37:53.000Z

Original author: phongvanpham

- **Attachment** [irq-generic.c](#) added

The file enclosed is baseline from 05/08/17 (latest) checkout

**Author:** Trac Migrate 2017-05-09T21:38:50.000Z

Original author: phongvanpham

- **Attachment** [irq-generic.c.orig](#) added

This is the original file (before change) for diff'ing purposes to see code delta

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: phongvanpham

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-05-12T05:19:45.000Z

Original author: phongvanpham

The change looks good, please use your real name and a valid e-mail address for the patch.

Author: Trac Migrate    2017-05-12T18:40:56.000Z

Original author: phongvanpham

- **Attachment** [0001-interrupt-vector-indexing-is-assuming-BSP\\_INTERRUPT\\_.patch](#) added patch

Author: Trac Migrate    2017-05-14T04:11:01.000Z

Original author: phongvanpham

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"a9859d1a5818fdfe587160767979568bb7f04/rtems" a9859d1/rtems]:

1 interrupt vector indexing **is** assuming BSP\_INTERRUPT\_VECTOR\_MIN = 0  
2  
3 Closes [#3014](#).

Author: Trac Migrate    2017-11-09T06:27:14.000Z

Original author: phongvanpham

- **Milestone** changed from %"4.12.0" to %"5.1"
- Milestone renamed

4.2.1.709 3012 - Global C++ IO streams are broken (cout, cin, cerr)

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3012                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2017-05-09T08:57:53.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::newlib, version::4.12                                |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/3012">https://gitlab.rtems.org/rtems/rtems/-/issues/3012</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The global C++ IO stream objects are initialized here

[https://gcc.gnu.org/viewcvs/gcc/trunk/libstdc%2B%2B-v3/src/c%2B%2B98/ios\\_init.cc?view=markup#l85](https://gcc.gnu.org/viewcvs/gcc/trunk/libstdc%2B%2B-v3/src/c%2B%2B98/ios_init.cc?view=markup#l85)

via a placement new. The “stdout” etc. is thread-local in Newlib

```
1 #define      stdout      (_REENT->_stdout)
```

Using this for a global object like std::cout is quite broken. Which FILE object should be used instead? Potential fix:

```
1 diff --git a/libstdc++-v3/src/c++98/ios_init.cc b/libstdc++-v3/src/c++98/ios_init.
  ↪cc
2 index c5bcc83..7470c44 100644
3 --- a/libstdc++-v3/src/c++98/ios_init.cc
4 +++ b/libstdc++-v3/src/c++98/ios_init.cc
5 @@ -33,6 +33,15 @@
6 #include <ext/stdio_filebuf.h>
7 #include <ext/stdio_sync_filebuf.h>
8
9 #ifdef __rtems__
10 #undef stdout
11 #undef stdin
12 #undef stderr
13 #define stdout (_GLOBAL_REENT->_stdout)
14 #define stdin (_GLOBAL_REENT->_stdout)
15 #define stderr (_GLOBAL_REENT->_stdout)
16 #endif
17 +
18 namespace __gnu_internal _GLIBCXX_VISIBILITY(hidden)
19 {
20 using namespace __gnu_cxx;
```

```
1 diff --git a/newlib/libc/stdio/findfp.c b/newlib/libc/stdio/findfp.c
2 index 83d3dc5..7d50951 100644
3 --- a/newlib/libc/stdio/findfp.c
4 +++ b/newlib/libc/stdio/findfp.c
5 @@ -259,6 +259,12 @@ _DEFUN(__sinit, (s),
6 __sinit_lock_release ();
7 }
8
9 +static void __attribute__((__constructor__(0)))
10 +_global_reent_init(void)
11 +{
12 +  __sinit (_GLOBAL_REENT);
13 +}
14 +
15 #ifndef __SINGLE_THREAD__
16
17 __LOCK_INIT_RECURSIVE(static, __sfp_recursive_mutex);
```

---

**Author:** Chris Johns 2017-05-10T00:21:49.000Z

---

Original author: sebastian.huber

This approach concerns me because it breaks `std::cout` in the other direction. If this is fine for C++'s `stdout` it should be ok for a thread's C `stdout` and given `newlib` has:

```
1 #define      stdout  (_REENT->_stdout)
```

we are not consistent.

Is moving at run-time the address of `stdout`, which `newlib` does, conflicting with another standard like C++? I assume the `stdc++` code is capturing a reference to `stdout` so closing and then opening a file and assigning it to `stdio` works.

This is a difficult issue.

---

**Author:** Trac Migrate 2017-05-10T05:08:39.000Z

---

Original author: sebastian.huber

Another option would be to use thread-local `cout`, etc. This would require that all RTEMS targets support thread-local storage.

---

**Author:** Chris Johns 2017-05-10T05:59:36.000Z

---

Original author: sebastian.huber

I have considered this and it is attractive. Is this something `libstdc++` supports out of the box or do we need to make changes?

I would like to understand the issue a little more and how `cygwin` solves the problem. Joel has been testing some code on `cygwin` and it would be nice to get it to run on RTEMS and see how it breaks.

I am concerned the current implementation's behavior is undefined if a thread calls `std::cout` and then is deleted leaving `libstdc++` with a reference to invalid memory.

---

**Author:** Trac Migrate 2017-05-10T06:05:58.000Z

---

Original author: sebastian.huber

Replying to [Chris Johns](#):

I have considered this and it is attractive. Is this something `libstdc++` supports out of the box or do we need to make changes?

No, I guess it needs a some work and it is not clear if this is acceptable for `libstdc++`. The maintainer have a strong view if it comes to standard compliance.

I would like to understand the issue a little more and how cygwin solves the problem.

I guess the main thread is never deleted, so cout can use its stdout safely.

Joel has been testing some code on cygwin and it would be nice to get it to run on RTEMS and see how it breaks. I am concerned the current implementation's behavior is undefined if a thread calls `std::cout` and then is deleted leaving `libstdc++` with a reference to invalid memory.

This is why one option is to use the `_GLOBAL_REENT`.

**Author:** Trac Migrate 2017-05-23T09:45:20.000Z

Original author: sebastian.huber

The Ada run-time support has the same problem (thread-local IO streams used like a global object).

**Author:** Trac Migrate 2017-06-22T06:36:49.000Z

Original author: sebastian.huber

Maybe we could add an RTEMS-specific change to Newlib so that we still have the thread-local stdio streams, but we initialize them to global FILE objects by default, e.g. remove struct `_reent::__sf` for RTEMS. This would also reduce the amount of per-thread storage.

If we do this, then we have to be careful with `fclose()`, since this would close the FILE for all threads. There is no reference counting in the FILE objects.

**Author:** Trac Migrate 2017-06-30T12:57:05.000Z

Original author: sebastian.huber

In `[changeset:"5ede1c7e8b1874bbac2f8a3d158bd1c7d802156d/rtems-source-builder" 5ede1c7/rtems-source-builder]`:

```
1 4.12: Enable global stdio streams
2
3 Update #3012.
```

**Author:** Trac Migrate 2017-06-30T12:57:49.000Z

Original author: sebastian.huber

In `[changeset:"9b07f5efe364bc52b80eff83389ee4bf4a1e0c40/rtems" 9b07f5e/rtems]`:

```

1 newlib01: Use fopen() instead of freopen()
2
3 With global stdio streams, a freopen() would close the global stream
4 object.
5
6 Update #3012.

```

**Author:** Chris Johns 2017-07-06T01:08:35.000Z

Original author: sebastian.huber

Has the recent change in newlib to have a single stdout, stderr, etc object and per thread references in the TLS fixed this problem?

If the first use of the C++ standard streams is before any code redirects and overwrites a thread TLS pointer the standard streams should be the global instance.

**Author:** Trac Migrate 2017-07-06T05:08:03.000Z

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"4.12.0"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

From my point of view this problem is fixed.

The application could alter the stdio stream references in a attribute((constructor(123))) function if it knows what to do.

**Author:** Trac Migrate 2017-07-06T05:08:25.000Z

Original author: sebastian.huber

- **Version** ~"4.12" deleted

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.710 3010 - src/cpukit/posix/src/mmap.c:189]: (style) Suspicious condition

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3010                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-05-08T19:33:43.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3010">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3010</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: dcb

src/cpukit/posix/src/mmap.c:189]: (style) Suspicious condition (bitwise operator + comparison); Clarify expression with parentheses.

Source code is

```
} else if ( (flags & MAP_PRIVATE != MAP_PRIVATE) ) {
```

Maybe better code

```
} else if ( (flags & MAP_PRIVATE) != MAP_PRIVATE ) {
```

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Trac Migrate    2017-05-11T07:31:02.000Z |
|---------------------------------------------------------|

Original author: dcb

- **Milestone** changed from %"4.12" to %"4.12.0"

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Trac Migrate    2017-05-16T15:38:07.000Z |
|---------------------------------------------------------|

Original author: dcb

- **Owner** set to Gedare Bloom <[gedare@rtems.org](mailto:gedare@rtems.org)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"a330c5dc246eb902a8191c9c7bd50eb76254b001/rtems" a330c5d/rtems]:

```
1 posix: clarify expression with parentheses
2
3 Close #3010.
```

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Trac Migrate    2017-11-09T06:27:14.000Z |
|---------------------------------------------------------|

Original author: dcb



- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.711 3009 - Provide invalid link handler for docs.rtems.org so old docs can be removed.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3009                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-05-07T22:57:36.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::high, resolution::wontfix, tickettype::infra, version::5                                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3009">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3009</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The docs.rtems.org website has lots of old docs which need to be removed.

See [#3008](#) for a reference to old documentation.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Chris Johns 2017-10-11T23:08:49.000Z

- **Resolution** set to ~”wontfix”
- **Status** changed from *new* to *closed*

The old paths have been remove for a while and it looks like Google has indexed the site. The www.rtems.org pages have been updated.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

## 4.2.1.712 3008 - missing pax causes install failures

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3008                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-05-06T19:47:36.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | doc, priority::normal, resolution::fixed, tickettype::defect, version::5                                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3008">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3008</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: [Hass@Howard](#)

I have tried to install sparc bsp=erc32 on 4 different builds. 3 failed, and 1 flawlessly installed. The others all seem to fail somewhere during make install of test suites. Each reports one missing config problem or another.

I believe the problem resulted in a missing package, pax & libbsd-dev on Ubuntu 12.04.5 LTS (GNU/Linux 3.2.0-126-virtual x86\_64)

I hadn't seen this exact problem because I normally update & upgrade as soon as I get a new image. Pressed for time, I skipped it. So, I am not sure if we need to update the documentation to directly include pax, since it is directly called in configure and breaks if not present.

[https://docs.rtems.org/rsb/#\\_host\\_setups](https://docs.rtems.org/rsb/#_host_setups) Under this section, 11.1.5. Ubuntu

Add pax to this line \$ sudo apt-get build-dep binutils gcc g++ gdb unzip git python2.7-dev pax

**Author:** Chris Johns 2017-05-07T22:54:11.000Z

Original author: [Hass@Howard](#)

This looks like a duplicate of [#2437](#).

Solving this issue cleanly at the RSB level requires teaching the RSB about packages and then providing per host integration to the local packaging system if one is present. The RSB can build anything and so it is difficult to create a per host install list for everything that it could build. As a result there is currently a middle ground that is not cleanly covered leaving holes such as this one.

For pax please provide a documentation patch.

**Author:** Chris Johns 2017-05-07T22:58:24.000Z

Original author: [Hass@Howard](#)

Also the latest RSB documentation is <https://docs.rtems.org/branches/master/rsb/index.html>

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: [Hass@Howard](#)

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-09-04T03:33:35.000Z

Original author: [Hass@Howard](#)

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"2cc9e2acd2ff48f913dfd2269b05740160d93c12/rtems-docs"2cc9e2a/rtems-docs]:

```
1 Add PAX to the Ubuntu packages to install.
2
3 Closes #3008.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: [Hass@Howard](#)

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.713 3006 - SPARC LEON3 BSP SMP build is broken.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3006                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-04-27T05:57:22.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:sparc, bsp, priority::high, resolution::fixed, tickettype::defect, version::5                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3006">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3006</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The rtems-bsp-builder failure output is:

```
1 2 smp-debug sparc/leon3 build:
2 configure: /opt/work/chris/rtems/kernel/rtems.git/configure --target\
3 =sparc-rtems4.12 --enable-rtemsbasp=leon3 --prefix=/opt/rtems/4.12\
4 --enable-debug --enable-smp --enable-tests
5 error: c/src/lib/libbsp/sparc/shared/spw/grspw_pkt.c:61:2 error:
6 #error SMP mode not compatible with these interrupt lock primitives
```

The BSP builder command line is:

```

1 RTEMS Tools Project - RTEMS Kernel BSP Builder, 4.12.not_released
2 command: /opt/work/rtems/4.12/bin/rtems-bsp-builder --rtems-\\
3 tools=/build/rtems/tools/4.12\\
4 --rtems=/opt/work/chris/rtems/kernel/rtems.git --build=smp-debug\\
5 --log=x

```

**Author:** Chris Johns 2017-04-27T07:20:30.000Z

- **Owner** set to daniel
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-05-12T09:32:46.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

I never had this problem until I rebased recently. It triggered on LEON3 since some drivers are looking at the RTEMS version information from headers.

This was fixed by Sebastian in commit: e0627c69b5bc2b669105525b1ce35f84abc3edf0  
"cpukit: Fix \_\_RTEMS\_REVISION\_\_ define"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.714 3003 - FAT does not support clusters bigger than 32K

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3003                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-04-20T12:23:11.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | filesystem, filesystem::fat, priority::normal, resolution::fixed, ticket-type::defect, version::5                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3003">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3003</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: munster

When used with 64KiB clusters, the FAT driver will loop forever in cpukit/libfs/src/dosfs/fat.c, line 580. This happens because struct fat\_vol\_s declares bytes per cluster variable as **uint16\_t bpc**, whereas it can be as big as 256KiB.

Here is a link for Linux FAT driver which doesn't make any assumption about cluster size:  
[\[http://lxr.free-electrons.com/source/fs/fat/inode.c?v=2.6.24#L1262\]](http://lxr.free-electrons.com/source/fs/fat/inode.c?v=2.6.24#L1262)

- **fat.diff**

---

**Author:** Gedare Bloom 2017-04-20T15:15:38.000Z

---

Original author: munster

Do you have a test case?

Do you have a proposed solution? is it just to increase bpc type size?

---

**Author:** Trac Migrate 2017-04-21T09:41:56.000Z

---

Original author: munster

- **Attachment** **fat.diff** added

---

**Author:** Trac Migrate 2017-04-21T09:43:32.000Z

---

Original author: munster

I have attached a solution which increases bpc size and removes the limit.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: munster

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-08-24T09:56:36.000Z

---

Original author: munster

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

---

**Author:** Trac Migrate 2017-09-06T08:21:32.000Z

---

Original author: munster

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"fae59c9b4248e5511d1ea469624aa9842fc289e1/rtems"fae59c9/rtems]:

```
1 dosfs: Support a cluster size of 64KiB
2
3 Close #3003.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: munster

- **Milestone** changed from %"4.12.0" to %"5.1"

### Milestone renamed

4.2.1.715 3001 - SMP build of RTEMS Testsuite does not set CONFIG-  
URE MAXIMUM PROCESSORS

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 3001                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-04-20T07:48:13.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | cpukit, priority::high, resolution::fixed, rtems::score, smp, ticket-type::defect, version::5                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3001">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/3001</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The default setting for `CONFIGURE_MAXIMUM_PROCESSORS` is 1 and this means `rtems_configuration_is_smp_enabled()` returns false. Only the `smptests` set the maximum processor count to `CPU_COUNT` and therefore run in SMP mode.

If SMP is not running in an SMP build when running the tests are the tests really reporting a true indication of the of the system?

I would expect we have the API tests, libtests and fstests running with SMP enabled in an SMP build.

**Author:** Chris Johns 2017-04-20T07:48:52.000Z

- **Description** changed

```
1 - The default setting for `CONFIGURE_MAXIMUM_PROCESSORS` is `1` and
   ↳ this means `rtems_configuration_is_smp_enabled()` returns `false`.
   ↳ Only the `smptests` set the the maximum processor count `CPU_COUNT`
   ↳ and therefore run in SMP mode.
2 ?
   ↳
   ↳
```

(continues on next page)

(continued from previous page)

```

3
4 + The default setting for `CONFIGURE_MAXIMUM_PROCESSORS` is `1` and
   ↳ this means `rtems_configuration_is_smp_enabled()` returns `false`.
   ↳ Only the `smptests` set the maximum processor count to `CPU_COUNT`
   ↳ and therefore run in SMP mode.
5 ?
   ↳
   ↳
6                                     +++
7
8 If SMP is not running in an SMP build when running the tests are the
   ↳ tests really reporting a true indication of the of the system?
9
10 I would expect we have the API tests, `libtests` and `fstests` running
    ↳ with SMP enabled in an SMP build.

```

**Author:** Trac Migrate 2017-05-11T09:59:06.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*

**Author:** Trac Migrate 2017-05-12T06:01:25.000Z

In [changeset:"1309718114ed5386175a2df66c9d38ac40c3a2d0/rtems" 1309718/rtems]:

```

1 confdefs.h: CONFIGURE_DISABLE_SMP_CONFIGURATION
2
3 Enable the SMP configuration by default in case SMP is enabled. Add
4 configuration option CONFIGURE_DISABLE_SMP_CONFIGURATION to disable it
5 explicitly.
6
7 Add CONFIGURE_DISABLE_SMP_CONFIGURATION to all test which would fail
8 otherwise.
9
10 Update #3001.

```

**Author:** Trac Migrate 2017-05-12T06:36:26.000Z

In [changeset:"f778b7f3f177a39505aeea61206e95fc54f875be/rtems" f778b7f3/rtems]:

```

1 confdefs.h: Use SMP scheduler only if necessary
2
3 Update #3001.

```

**Author:** Trac Migrate 2017-05-16T07:48:56.000Z

In [changeset:"6bc63df199f82b90a3ffe471b452f813bf7c7a70/rtems" 6bc63df1/rtems]:

```

1 confdefs.h: Add SMP enabled field to configuration
2
3 Do not use the processor count to determine if SMP is enabled. Instead
4 use a dedicated configuration option. Enable SMP by default in SMP
5 configurations.
6
7 Add CONFIGURE_DISABLE_SMP_CONFIGURATION to all test which would fail
8 otherwise.
9
10 Update #3001.
```

**Author:** Trac Migrate 2017-06-08T08:11:59.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

By default, in case SMP is enabled the SMP mode will be used.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.716 2999 - sb-check on Cygwin

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2999                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2017-04-18T14:41:54.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::wontfix, tickettype::defect, tool::rtems-source-builder, version::5                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2999">https://gitlab.rtems.org/rtems/rtems/-/issues/2999</a> |
| <b>Merges</b>      | 0                                                                                                                   |

It looks like there are two issues in windows.py

- Probes for programs like bison and flex as required.
- tar - bsdtar must be on mingw. It doesn't appear to exist on cygwin.



I think the fix is pretty simple code-wise but I wanted to get some feedback on why there were a lot more required programs in this file than on other OS.py files.

---

**Author:** Chris Johns 2017-04-18T23:43:22.000Z

---

Replying to [Joel Sherrill](#):

It looks like there are two issues in windows.py \* Probes for programs like bison and flex as required. \* tar - bsdtar must be on mingw. It doesn't appear to exist on cygwin.

Correct. Getting a suitable bug free tar on Windows is not as easy as it looks.

I have no interest in supporting Cygwin. In the past it has never been able to complete a build of the tools in a reliable way while MSYS2 does. Cygwin complicates the Windows environment, machine set up, documentation and what user's should use.

I do not want to run parallel MSYS2 and Cygwin environments to check both are working. I have supported Cygwin the past and found it a major effort and distraction.

I think the new Microsoft Unix layer, what ever that is called, is a better path for us to follow.

I think the fix is pretty simple code-wise

If you wish to support Cygwin then I ask you test all changes to this file on MSYS2 as this is the primary set up for Windows.

but I wanted to get some feedback on why there were a lot more required programs in this file than on other OS.py files.

Typically a default entry is overridden by creating an entry in the host's OS file. Entries are overridden if the paths do not match.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Joel Sherrill 2017-10-12T00:16:16.000Z

---

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

Some patches for Cygwin support were merged. Other issues were solved by installing more tools.

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.717 2997 - Monitor config command does not handle unlimited objects.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2997                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-04-18T02:43:56.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2997">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2997</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Running the console’s config command with unlimited objects gives:

```

1 [/] # config
2 INITIAL (startup) Configuration Info
3 -----
4 WORKSPACE      start: 0x800f0173; size: 0x374c8
5 TIME           usec/tick: 10000; tick/timeslice: 50; tick/sec: 100
6 MAXIMUMS       tasks: -2147483614; timers: -2147483616; sems: -2147483609; que
   ↪ 's: -2147483616; ext's: 1
7 partitions: -2147483616; regions: -2147483616; ports: -2147483616; periods: -
   ↪ 2147483616

```

**Author:** Joel Sherrill 2017-04-18T14:34:46.000Z

Why do I own this? I added neither the monitor nor unlimited objects? I think you wrote both of them. :)

**Author:** Chris Johns 2017-04-18T23:44:32.000Z

- **Owner** set to @chrisj

Sorry, I just missed you are the default. I have posted a patch to the list.

**Author:** Trac Migrate 2017-08-24T06:05:36.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

[4fd25c4340f30f61360d4ab2eb126b095eab82e7/rtems]

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.718 2995 - Missing bsets

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2995                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-04-16T23:04:21.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | bsp, priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2995">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2995</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: [Hass@Howard](#)

When I went to rebuild based on 4.12, I cloned from github. I am no longer getting all of the b-sets that I was expecting. Specifically, 4.12/rtems-sparc

Chris Johns said to submit it as a bug. It must have happened within the last couple of weeks. As my scripts that automated these tasks were working as of around 3/1/2017

```
git clone git://git.rtems.org/rtems-source-builder.git $SETBLDRSCRIPTDIR/sb-set-builder --list-bsets
```

```
RTEMS Source Builder - Set Builder, 4.12 (2074bd1168ee) Examining: config Examining:
../rtems/src/rtems-source-builder/source-builder/config Examining: ../rtems/src/rtems-
source-builder/bare/config devel/autotools-base.bset devel/autotools-internal.bset devel/
autotools.bset devel/dtc.bset devel/libtool.bset devel/libusb.bset devel/or1ksim.bset
devel/qemu.bset gnu-tools-4.6.bset gnu-tools-4.8.2.bset lang/gcc491.bset
```

**Author:** Joel Sherrill 2017-04-17T03:29:20.000Z

Original author: [Hass@Howard](#)

When you mentioned GitHub, I wondered if the mirroring was broken. It is not. And it looks like rtems/config/4.12 has the right content.

I will try the script in the morning to see what it lists on my computer.

**Author:** Trac Migrate 2017-04-17T03:44:58.000Z

Original author: [Hass@Howard](#)

What could I look for specifically by hand in the git repository?

---

**Author:** Joel Sherrill 2017-04-17T14:32:04.000Z

---

Original author: [Hass@Howard](#)

I don't think you need to look at anything. I can confirm the script doesn't find the RTEMS 4.12 bsets. It isn't seeing anything in the rtems/ directory.

```
$ ./source-builder/sb-set-builder --list-bsets RTEMS Source Builder - Set Builder,
4.12 (2074bd1168ee) Examining: config Examining: source-builder/config Ex-
amining: bare/config devel/autotools-base.bset devel/autotools-internal.bset
devel/autotools.bset devel/dtc.bset devel/libtool.bset devel/libusb.bset de-
vel/or1ksim.bset devel/qemu.bset gnu-tools-4.6.bset gnu-tools-4.8.2.bset
lang/gcc491.bset
```

The rtems 4.12 bset's are:

```
$ ls rtems/config/4.12 rtems-aarch64.bset rtems-i386.bset rtems-powerpc.bset
rtems-all.bset rtems-lm32.bset rtems-sh.bset rtems-arm.bset rtems-m32c.bset
rtems-sparc64.bset rtems-autotools-base.bset rtems-m68k.bset rtems-sparc.bset
rtems-autotools.bset rtems-microblaze.bset rtems-tools.bset rtems-autotools-
internal.bset rtems-mips.bset rtems-v850.bset rtems-bfin.bset rtems-moxie.bset
rtems-x86_64.bset rtems-default.bset rtems-nios2.bset rtems-epiphany.bset rtems-
or1k.bset
```

cd into rtems/ and then run set-builder using any of those. This is just a problem with the --list-bsets.

---

**Author:** Trac Migrate 2017-04-29T11:57:37.000Z

---

Original author: [Hass@Howard](#)

Thanks. It worked.

---

**Author:** Joel Sherrill 2017-04-29T17:24:34.000Z

---

Original author: [Hass@Howard](#)

Good news. Please close if it is resolved n

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: [Hass@Howard](#)

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Joel Sherrill 2017-10-12T01:07:54.000Z

---

Original author: [Hass@Howard](#)

- **Resolution** set to ~"fixed"

- **Status** changed from *new* to *closed*

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: [Hass@Howard](#)

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.719 2994 - tar01 XZ error

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2994                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2017-04-15T13:06:30.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2994">https://gitlab.rtems.org/rtems/rtems/-/issues/2994</a> |
| <b>Merges</b>      | 0                                                                                                                   |

This shows up on erc32 and psim.

```
/dest3/home/test_script: mode: 0755 want: 0755 ===== /dest3/symlink
===== (0)This is a test of loading an RTEMS filesystem from an initial tar image.
```

```
Untaring chunks from txz - XZ file is corrupt (data)
../..../rtems/c/src/../../testsuites/libtests/tar01/init.c: 272 status == UN-
TAR_SUCCESSFUL
```

---

**Author:** Joel Sherrill 2017-04-15T13:06:43.000Z

---

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %”4.12” to %”4.12.0”

---

**Author:** Trac Migrate 2017-06-13T09:45:57.000Z

---

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [\[changeset:”c7377381f4b3d02f88a4b2bd568d24a3d4a7d399/rtems”](#)  
[c7377381/rtems\]](#):

```

1 xz: Use CRC32
2
3 This reverts c475924d6d2ea7d5cba160a8a28e88642d6b46d8.
4
5 Update #2909.
6 Close #2994.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.720 2993 - SMP assert in \_Thread\_Executing in libdebugger

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2993                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-04-14T06:02:14.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2993">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2993</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The target code in libdebugger has support to recover from exceptions related to invalid memory accesses. GDB may request the server access memory on the target that results in an exception. The exception occurs on the server's remote connection thread and the server needs to recover and return an error to GDB.

Running the debugger01 test with an SMP build of RTEMS and libbsd for xilinx\_zedboard and issuing bt in GDB results in:

```

1 *** LIBBSD DEBUGGER 1 TEST ***
  ↳
  ↳
  ↳
  ↳ [144/1950]
2 shell:cannot set terminal attributes(/dev/console)
3
4 RTEMS Shell on /devn/ecxounss0o:1 e<.R TUESMeS 'Nheexlups' dteov ilcies>t
5 ccogmemma0n:d s<.C
6 adence CGEM Gigabit Ethernet Interface> on nexus0
7 miibus0: <MII bus> on cgem0
8 [/] # e1000phy0: <Marvell 88E1512 Gigabit PHY> PHY 0 on miibus0
9 e1000phy0: none, 10baseT, 10baseT-FDX, 100baseTX, 100baseTX-FDX, 1000baseT-FDX,
  ↳ 1000baseT-FDX-master, auto

```

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```

10 cgem0: Ethernet address: fa:69:35:9e:04:2f
11 zy7_slcr0: <Zynq-7000 slcr block> on nexus0
12 [zone: udpcb] kern.ipc.maxsockets limit reached
13 notice: cgem0: link state changed to DOWN
14 add host 10.10.5.1: gateway cgem0
15 add net default: gateway 10.10.5.1
16 rtems-db: remote running
17 rtems-db: tcp remote: listing on port: 1122
18 notice: cgem0: link state changed to UP
19
20 rtems-db: tcp remote: connect host: 10.10.5.2
21 rtems-db: arm debug: (v3.0) ARMv7 [v7, all CP14 registers] breakpoints:5_
  ↳watchpoints:3
22 assertion "cpu_self->thread_dispatch_disable_level != 0 || _ISR_Get_level() != 0"
  ↳failed: file "../cpukit/../../../../xilinx_zynq_zedboard/lib/include/rtems/
  ↳score/percpu.h", line 630, function: _Per_CPU_Get

```

If I enable TARGET\_DEBUG in libdebugger and apply the attached patch I can create the assert with DIE\_ON\_ASSERT set to 1. The output is:

```

1 rtems-db: tcp remote: connect host: 10.10.5.2
2 rtems-db: arm debug: (v3.0) ARMv7 [v7, all CP14 registers] breakpoints:5_
  ↳watchpoints:3
3 [] frame = 005664EC sig=1 vector=4 ifsr=00000000 pra=0024173A
4 [] R0 = 00000158 R1 = 00000004 R2 = 00000001 R3 = 0041AB64
5 [] R4 = 00000158 R5 = 00000004 R6 = 00000000 R7 = 005606A4
6 [] R8 = 00000016 R9 = 00000001 R10 = 00000006 R11 = 0041AB64
7 [] R12 = 00560658 SP = 00566540 LR = 00000FFD PC = 00241736
8 [] CPSR = 08010173 ----Q--A-FT GE:0 IT:01 M:13 SVC
9 [] target exception: 0 0 0
10 assertion "cpu_self->thread_dispatch_disable_level != 0 || _ISR_Get_level() != 0"
  ↳failed: file "../cpukit/../../../../xilinx_zynq_zedboard/lib/include/rtems/
  ↳score/percpu.h", line 630, function: _Per_CPU_Get

```

and set to {{{0}}}:

```

1 rtems-db: tcp remote: connect host: 10.10.5.2
2 rtems-db: arm debug: (v3.0) ARMv7 [v7, all CP14 registers] breakpoints:5_
  ↳watchpoints:3
3 [] frame = 005664EC sig=1 vector=4 ifsr=00000000 pra=0024173A
4 [] R0 = 00000158 R1 = 00000004 R2 = 00000001 R3 = 0041AB64
5 [] R4 = 00000158 R5 = 00000004 R6 = 00000000 R7 = 005606A4
6 [] R8 = 00000016 R9 = 00000001 R10 = 00000006 R11 = 0041AB64
7 [] R12 = 00560658 SP = 00566540 LR = 00000FFD PC = 00241736
8 [] CPSR = 08010173 ----Q--A-FT GE:0 IT:01 M:13 SVC
9 [] target exception: 0 0 0
10 [] tid:0A01000A: thread:0041F5B0 frame:005664EC
11 [] server access fault
12 [] frame = 005664EC sig=1 vector=4 ifsr=00000000 pra=0024173A
13 [] R0 = 00000158 R1 = 00000004 R2 = 00000001 R3 = 0041AB64

```

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```

14 [] R4 = 00000158 R5 = 00000004 R6 = 00000000 R7 = 005606A4
15 [] R8 = 00000016 R9 = 00000001 R10 = 00000006 R11 = 0041AB64
16 [] R12 = 00560658 SP = 00566540 LR = 0000FFD PC = 00241736
17 [] CPSR = 08010173 ----Q--A-FT GE:0 IT:01 M:13 SVC
18 [] target exception: 0 0 0
19 [] tid:0A01000A: thread:0041F5B0 frame:005664EC
20 [] server access fault

```

The following lines first two values are `cpu_self->thread_dispatch_disable_level` and `_ISR_Get_level()` which are both 0 so I cannot see a reason the assert is happening:

```

1 [] target exception: 0 0 0

```

- [die-on-assert.patch](#)

**Author:** Chris Johns 2017-04-14T06:02:48.000Z

- Attachment [die-on-assert.patch](#) added

Die on assert patch to test.

**Author:** Trac Migrate 2017-04-15T00:44:35.000Z

In [changeset:"b53ad4615a16f65119e40f7084f9bacd88dc42cd/rtems" b53ad46/rtems]:

```

1 libdebugger: Work around assert when using _Thread_Executing.
2
3 Using _Thread_Executing with RTEMS_DEBUG results in an `assert` if
4 the server accesses invalid memory.
5
6 Updates #2993.

```

**Author:** Trac Migrate 2017-05-02T05:27:20.000Z

What prevents a thread dispatch in this context?

**Author:** Chris Johns 2017-05-02T06:27:02.000Z

I think it was the mode and attributes being the wrong way around in the create call.

Maybe the create call should detect this and return an error rather than the internal error.

**Author:** Joel Sherrill 2017-05-02T14:17:14.000Z



It would take making the attribute and mode bits mutually exclusive so overlap can be detected. I considered this also. We would have to be careful to document/check that they stay overlapping.

**Author:** Trac Migrate 2017-08-24T07:30:17.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[b2353ed92435c3f9301b795bf20bce14f0ddb01b/rtems]

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.721 2983 - Create <rtems/inttypes.h> to consolidate extensions to <inttypes.h>

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2983                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-04-06T22:45:08.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2983">https://gitlab.rtems.org/rtems/rtems/-/issues/2983</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Per discussion at <https://lists.rtems.org/pipermail/devel/2017-April/017483.html>, create <rtems/inttypes.h> to consolidate extensions to the C99 <inttypes.h> file. A quick search shows that there are the following set of defines which could be consolidated as a starting point. Then these are available to address other printf() format warnings.

```
$ grep -r "#define PRI" . | grep -v PRIORITY | grep -v PRINT
```

```
./cpukit/libmisc/shell/main_time.c:#define PRIldtime_t PRIld64
./cpukit/libmisc/shell/main_time.c:#define PRIldtime_t PRIld32
./cpukit/libmisc/uuid/gen_uuid.c:#define PRIltime_t PRIu64
./cpukit/libmisc/uuid/gen_uuid.c:#define PRIltime_t PRIu32 ./cpukit/libdl/rtl-
shell.c:#define PRIloff_t PRIo32 ./cpukit/libdl/rtl-shell.c:#define PRI-
off_t PRIo64 ./cpukit/libfs/src/nfsclient/src/dirutils.c:#define PRI-
omode_t PRIo64 ./cpukit/libfs/src/nfsclient/src/dirutils.c:#define PRI-
omode_t PRIo32 ./cpukit/libfs/src/nfsclient/src/dirutils.c:#define PRIloff_t
PRIo64 ./cpukit/libfs/src/nfsclient/src/dirutils.c:#define PRIloff_t PRIo32
./cpukit/libfs/src/rfs/rtems-rfs-dir.c:#define PRIloff_t PRIo64 ./cpukit/libfs/src/rfs/rtems-
rfs-dir.c:#define PRIloff_t PRIo32 ./cpukit/libfs/src/rfs/rtems-rfs-rtems-
file.c:#define PRIloff_t PRIld64 ./cpukit/libfs/src/rfs/rtems-rfs-rtems-
file.c:#define PRIloff_t PRIld32 ./cpukit/libfs/src/rfs/rtems-rfs-rtems.c:#define
```

```

PRIomode_t      PRIo64      ./cpukit/libfs/src/rfs/rtems-rfs-rtems.c:#define      PRI-
omode_t      PRIo32      ./testsuites/psxtests/include/pmacros.h:#define      PRIId-
off_t      PRIo64      ./testsuites/psxtests/include/pmacros.h:#define      PRIId-
off_t      PRIo32      ./testsuites/psxtests/include/pmacros.h:#define      PRIxblk-
size_t      PRIx64      ./testsuites/psxtests/include/pmacros.h:#define      PRIxblk-
size_t      PRIx32      ./testsuites/psxtests/include/pmacros.h:#define      PRIxblk-
size_t      "lx"      ./testsuites/psxtests/include/pmacros.h:#define      PRIxblkcnt_t
PRIx64      ./testsuites/psxtests/include/pmacros.h:#define      PRIxblkcnt_t      PRIx32
./testsuites/psxtests/include/pmacros.h:#define      PRIxblkcnt_t      "lx"      ./test-
suites/libtests/termios01/init.c:#define      PRIdrtems_termios_baud_t      PRIId32
./testsuites/support/include/pritime.h:#define      PRIIdtime_t      PRIId64      ./test-
suites/support/include/pritime.h:#define      PRIIdtime_t      PRIId32      ./test-
suites/support/include/tmacros.h:#define      PRIxrtems_id      PRIx16      ./test-
suites/support/include/tmacros.h:#define      PRIxrtems_id      PRIx32      ./test-
suites/support/include/tmacros.h:#define      PRIIdPriority_Control      PRIu64      ./test-
suites/support/include/tmacros.h:#define      PRIxPriority_Control      PRIx64      ./test-
suites/support/include/tmacros.h:#define      PRIdrtems_task_priority      PRIu32      ./test-
suites/support/include/tmacros.h:#define      PRIxrtems_task_priority      PRIx32      ./test-
suites/support/include/tmacros.h:#define      PRIIdWatchdog_Interval      PRIu32      ./test-
suites/support/include/tmacros.h:#define      PRIdrtems_interval      PRIIdWatchdog_Interval
./testsuites/support/include/tmacros.h:#define      PRIIdThread_Entry_numeric_type      PRI-
uPTR      ./testsuites/support/include/tmacros.h:#define      PRIdrtems_task_argument
PRIIdThread_Entry_numeric_type      ./testsuites/support/include/tmacros.h:#define
PRIxrtems_event_set      PRIx32      ./testsuites/support/include/tmacros.h:#define
PRIxpthread_t      PRIx32      ./testsuites/support/include/tmacros.h:#define
PRIxrtems_signal_set      PRIx32      ./testsuites/support/include/tmacros.h:#define
PRIxino_t      "lx"      ./testsuites/support/include/primode.h:#define      PRIomode_t
PRIo64      ./testsuites/support/include/primode.h:#define      PRIomode_t      PRIo32
./testsuites/sptests/sp21/init.c:#define      PRIurtems_device_major_number
PRIu32      ./testsuites/sptests/sp08/init.c:#define      PRIxModes_Control      PRIx32
./testsuites/sptests/sp08/init.c:#define      PRIxrtems_mode      PRIxModes_Control
./testsuites/sptests/sp47/init.c:#define      PRIxModes_Control      PRIx32      ./test-
suites/sptests/sp47/init.c:#define      PRIxrtems_mode      PRIxModes_Control

```

**Author:** Trac Migrate 2017-04-18T16:25:09.000Z

- **Owner** set to Joel Sherrill <[joel@rtems.org](mailto:joel@rtems.org)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"d420b679afc03f17d597193268e98966a0acd83d/rtems" d420b67/rtems]:

```

1 Merge tmacros.h PRIxxx constants from testsuites/ into <rtems/inttypes.
  ↪h>
2
3 This completes the initial creation of rtems/inttypes.h based on all
4 existing PRIxxx definitions contained in RTEMS Project owned code.
5
6 closes #2983.

```

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.722 2982 - LibBSD broken with GCC+RTEMS changes

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2982                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-04-06T00:21:53.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::highest, resolution::invalid, tickettype::defect, tool::gcc, version::5                                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2982">https://gitlab.rtems.org/rtems/rtems/-/issues/2982</a> |
| <b>Merges</b>      | 0                                                                                                                   |

The RTEMS Header test is libbsd is broken. I assume including <rtems.h> and no other is still a requirement. Maybe we need a test for this.

The example code is:

```

1 $ cat t.c
2 /*
3
4 /opt/work/rtems/4.12/bin/arm-rtems4.12-gcc -qrtems -B/opt/work/si/rtems/4.12/arm-
  ↪ rtems4.12/lib -B/opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/ --
  ↪ specs bsp_specs -march=armv7-a -mthumb -mfpu=neon -mfloat-abi=hard -
  ↪ mtune=cortex-a9 -ffunction-sections -fdata-sections -DHAVE_RTEMS_SCORE_CPUOPTS_
  ↪ H=1 t.c -c -o t.o
5
6 */
7
8 #include <rtems.h>
9
10 int main(int argc, char **argv) {
11 (void)argc; (void)argv;
12 return 0;
13 }
14 $ /opt/work/rtems/4.12/bin/arm-rtems4.12-gcc -qrtems -B/opt/work/si/rtems/4.12/
  ↪ arm-rtems4.12/lib -B/opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/

```

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```

↪ --specs bsp_specs -march=armv7-a -mthumb -mfpu=neon -mfloat-abi=hard -
↪ mtune=cortex-a9 -ffunction-sections -fdata-sections -DHAVE_RTEMS_SCORE_CPUOPTS_
↪ H=1 t.c -c -o t.o
15 In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/signal.h:6:0,
16 from /opt/work/rtems/4.12/arm-rtems4.12/include/time.h:178,
17 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/time.h:268,
18 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↪ score/timestamp.h:43,
19 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↪ score/thread.h:36,
20 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↪ score/heap.h:22,
21 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↪ rtems/types.h:26,
22 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems.
↪ h:31,
23 from t.c:7:
24 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/signal.h:53:3: error: unknown type_
↪ name 'pthread_attr_t'
25 pthread_attr_t *sigev_notify_attributes;    /* Notification Attributes */
26 ^~~~~~
27 In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/string.h:10:0,
28 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↪ score/basedefs.h:49,
29 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↪ score/types.h:23,
30 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↪ score/cpu.h:32,
31 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↪ system.h:23,
32 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems.
↪ h:29,
33 from t.c:7:
34 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/signal.h:202:5: error: unknown_
↪ type name 'pthread_t'
35 int _EXFUN(pthread_kill, (pthread_t thread, int sig));
36 ^
37 In file included from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/
↪ include/rtems/rtems/config.h:25:0,
38 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↪ config.h:57,
39 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems.
↪ h:33,
40 from t.c:7:
41 /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/rtems/
↪ tasks.h:425:3: error: unknown type name 'cpu_set_t'
42 cpu_set_t          *cpuset
43 ^~~~~~
44 /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/rtems/

```

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```

↳tasks.h:458:9: error: unknown type name 'cpu_set_t'
45 const cpu_set_t *cpuset
46 ^~~~~~
47 /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/rtems/
↳tasks.h:581:3: error: unknown type name 'cpu_set_t'
48 cpu_set_t *cpuset
49 ^~~~~~
50 $ cat t.cpp
51 /*
52
53 /opt/work/rtems/4.12/bin/arm-rtems4.12-g++ -qrtems -B/opt/work/si/rtems/4.12/arm-
↳rtems4.12/lib -B/opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/ --
↳specs bsp_specs -march=armv7-a -mthumb -mfpu=neon -mfloat-abi=hard -
↳mtune=cortex-a9 -ffunction-sections -fdata-sections -DHAVE_RTEMS_SCORE_CPUOPTS_
↳H=1 t.cpp -c -o t.o
54
55 */
56
57 #include <rtems.h>
58
59 int main(int argc, char **argv) {
60 (void)argc; (void)argv;
61 return 0;
62 }
63 $ /opt/work/rtems/4.12/bin/arm-rtems4.12-g++ -qrtems -B/opt/work/si/rtems/4.12/
↳arm-rtems4.12/lib -B/opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/
↳ --specs bsp_specs -march=armv7-a -mthumb -mfpu=neon -mfloat-abi=hard -
↳mtune=cortex-a9 -ffunction-sections -fdata-sections -DHAVE_RTEMS_SCORE_CPUOPTS_
↳H=1 t.cpp -c -o t.o
64 In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/signal.h:6:0,
65 from /opt/work/rtems/4.12/arm-rtems4.12/include/time.h:178,
66 from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/time.h:268,
67 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↳score/timestamp.h:43,
68 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↳score/thread.h:36,
69 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↳score/heap.h:22,
70 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↳rtems/types.h:26,
71 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems.
↳h:31,
72 from t.cpp:7:
73 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/signal.h:53:3: error: 'pthread_
↳attr_t' does not name a type
74 pthread_attr_t *sigev_notify_attributes; /* Notification Attributes */
75 ^~~~~~
76 In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/string.h:10:0,
77 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/

```

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```

↪score/basedefs.h:49,
78 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↪score/types.h:23,
79 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↪score/cpu.h:32,
80 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↪system.h:23,
81 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems.
↪h:29,
82 from t.cpp:7:
83 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/signal.h:202:5: error: 'pthread_t'
↪was not declared in this scope
84 int _EXFUN(pthread_kill, (pthread_t thread, int sig));
85 ^
86 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/signal.h:202:5: error: expected
↪primary-expression before 'int'
87 int _EXFUN(pthread_kill, (pthread_t thread, int sig));
88 ^
89 /opt/work/rtems/4.12/arm-rtems4.12/include/sys/signal.h:202:5: error: expression
↪list treated as compound expression in initializer [-fpermissive]
90 int _EXFUN(pthread_kill, (pthread_t thread, int sig));
91 ^
92 In file included from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/
↪include/rtems/rtems/config.h:25:0,
93 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
↪config.h:57,
94 from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems.
↪h:33,
95 from t.cpp:7:
96 /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/rtems/
↪tasks.h:425:3: error: 'cpu_set_t' has not been declared
97 cpu_set_t          *cpuset
98 ^~~~~~
99 /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/rtems/
↪tasks.h:458:9: error: 'cpu_set_t' does not name a type
100 const cpu_set_t *cpuset
101 ^~~~~~
102 /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/rtems/
↪tasks.h:581:3: error: 'cpu_set_t' has not been declared
103 cpu_set_t *cpuset
104 ^~~~~~

```

Note: The header test in libbsd is currently using C++ and I am not sure why.

**Author:** Chris Johns 2017-04-06T00:29:07.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

---

**Author:** Chris Johns 2017-04-06T02:17:54.000Z

---

- **Resolution** set to ~"invalid"
- **Status** changed from *assigned* to *closed*

I cleaned the install paths and rebuilt and I see no error.

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.723 2981 - testdata excludes on included tcfg files does not work

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2981                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-04-05T22:28:03.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::testing, tickettype::defect, version::5                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2981">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2981</a> |
| <b>Merges</b>      | 0                                                                                                                             |

It looks like the includes do not always work for .tcfg files. So far these BSPs do not appear to honor the excludes in an included file:

log/m32c-m32csim.log log/mips-hurricane.log log/mips-rbt4925.log log/mips-rbt4938.log  
log/moxie-moxiesim.log

mips and moxie are dl tests.

---

**Author:** Joel Sherrill 2017-04-05T22:28:14.000Z

---

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

---

**Author:** Joel Sherrill 2017-04-07T17:02:42.000Z

---

Still happens on my overnight build from master.

---

**Author:** Chris Johns 2017-04-15T02:00:30.000Z

---

On OSX MIPS still have a sed issue:

```

1 Mode = sf\\|df
2 xgcc: error: addsf3: No such file or directory
3 make[4]: *** [addsf3.o] Error 1
4 make[4]: *** Waiting for unfinished jobs....
5 Suffix = si\\|2\\|3

```

**Author:** Trac Migrate 2017-04-18T02:28:52.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"18f63c0004cc3348bc785a642da82d2a3d46db5d/rtems" 18f63c0/rtems]:

```

1 testsuite: Fix rtems-test-check not excluding tests.
2
3 The include file handling was broken.
4
5 Add a test configuration data README.
6
7 Closes #2981.

```

**Author:** Trac Migrate 2017-04-19T03:02:29.000Z

In [changeset:"3d803afef2b13cb526115a2fb2602be3bbf75f9f/rtems" 3d803af/rtems]:

```

1 testsuite: Fix rtems-test-check-py when a BSP has no tcfg file.
2
3 Updates #2981.

```

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed



## 4.2.1.724 2980 - pc586-sse does not compile fsjffs2gc01

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2980                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-04-05T22:09:12.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::worksforme, rtems::testing, ticket-type::defect, version::5                                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2980">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2980</a> |
| <b>Merges</b>      | 0                                                                                                                             |

After the tool upgrade, the pc586-sse BSP does not compile the test fsjffs2gc01:

```
i386-rtems4.12-gcc -B../..../pc586-sse/lib/ -specs bsp_specs -qrtems -
DHAVE_CONFIG_H -I. -I../..../rtems/c/src/../../testsuites/fstests/fsjffs2gc01
-I.. -I../..../rtems/c/src/../../testsuites/fstests/support -
I../..../rtems/c/src/../../testsuites/fstests/jffs2_support -
I../..../rtems/c/src/../../testsuites/fstests/./support/include -
I../..../rtems/c/src/../../testsuites/fstests/./psxtests/include -mtune=pentium
-march=pentium -msse2 -O2 -g -ffunction-sections -fdata-sections -Wall -Wmissing-
prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT
fstest_support.o -MD -MP -MF .deps/fstest_support.Tpo -c -o fstest_support.o test -f
'../support/fstest_support.c' || echo '...../rtems/c/src/../../
testsuites/fstests/fsjffs2gc01/./support/fstest_support.c In file included from
...../rtems/c/src/../../testsuites/fstests/fsjffs2gc01/./support/fstest_support.c:30:0:
...../rtems/c/src/../../testsuites/fstests/./psxtests/include/pmacros.h:99:2: error:
#error "unsupported size of off_t"
```

error "unsupported size of off\_t"

```
^~~~~~ gmake[6]: *** [fstest_support.o] Error 1 gmake[6]: Leaving directory
~/data/home/joel/rtems-work/rtems-testing/rtems/build-i386-pc586-sse-rtems/i386-
rtems4.12/c/pc586-sse/testsuites/fstests/fsjffs2gc01
```

**Author:** Joel Sherrill 2017-04-05T22:09:23.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-04-06T08:07:25.000Z

Works for me. Maybe a configure problem?

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-05-11T07:45:09.000Z

What is the status here?

**Author:** Trac Migrate 2017-06-08T08:13:46.000Z

- **Resolution** set to ~”worksforme”
- **Status** changed from *assigned* to *closed*

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.725 2977 - warnings in Dhrystone Benchmark

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2977                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-04-04T20:00:54.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2977">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2977</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The following warnings show up across the various BSPs for the dhrystone benchmark:

```
grep "dhrystone.*warning" log/* log/epiphany-epiphany_sim.log:../../../../../../../../rtems/c/src/../../../../testsuites/
warning: control reaches end of non-void function [-Wreturn-type] log/powerpc-
haleakala.log:../../../../../../../../rtems/c/src/../../../../testsuites/benchmarks/dhrystone/dhry_1.c:244:3:
warning: 'Int_2_Loc' may be used uninitialized in this function [-Wmaybe-uninitialized]
log/powerpc-t32mppc.log:../../../../../../../../rtems/c/src/../../../../testsuites/benchmarks/dhrystone/dhry_1.c:244:3:
warning: 'Int_2_Loc' may be used uninitialized in this function [-Wmaybe-uninitialized]
log/sparc64-niagara.log:../../../../../../../../rtems/c/src/../../../../testsuites/benchmarks/dhrystone/dhry_1.c:220:40:
warning: cast from pointer to integer of different size [-Wpointer-to-int-cast] log/sparc64-
niagara.log:../../../../../../../../rtems/c/src/../../../../testsuites/benchmarks/dhrystone/dhry_1.c:231:40:
warning: cast from pointer to integer of different size [-Wpointer-to-int-cast] log/sparc64-
usiii.log:../../../../../../../../rtems/c/src/../../../../testsuites/benchmarks/dhrystone/dhry_1.c:220:40:
warning: cast from pointer to integer of different size [-Wpointer-to-int-cast] log/sparc64-
usiii.log:../../../../../../../../rtems/c/src/../../../../testsuites/benchmarks/dhrystone/dhry_1.c:231:40:
warning: cast from pointer to integer of different size [-Wpointer-to-int-cast]
```

**Author:** Joel Sherrill 2017-04-04T20:01:22.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-04-05T05:23:53.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"662b301d34cec51efd9b6267023f3b7ac1916fde/rtems" 662b301/rtems]:

```
1 dhrystone: Fix warnings
2
3 Close #2977.
```

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.726 2976 - warnings in rtems-debugger-server.c

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2976                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-04-04T19:58:37.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2976">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2976</a> |
| <b>Merges</b>      | 0                                                                                                                             |

This should be present on any ARM or x86 build.

cpukit/libdebugger/rtems-debugger-server.c:393:1: warning: control reaches end of non-void function [-Wreturn-type] cpukit/libdebugger/rtems-debugger-server.c:405:1: warning: control reaches end of non-void function [-Wreturn-type]

**Author:** Joel Sherrill 2017-04-04T19:58:47.000Z

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-04-19T04:34:11.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"7f95cc07079901693338ef565bb318f4d5ed5a7c/rtems" 7f95cc0/rtems]:

```
1 libdebugger: Fix the mode on task create. Clean up warnings.
2
3 Closes #2976.
```

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.727 2969 - qorIQ BSPs depend on mkimage which is not always available

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2969                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-04-03T19:15:56.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2969">https://gitlab.rtems.org/rtems/rtems/-/issues/2969</a> |
| <b>Merges</b>      | 0                                                                                                                   |

The following BSPs do not successfully build on the master because they use UBoot's mkimage which is not part of the standard RTEMS tools.

qorIQ\_core\_0 qorIQ\_core\_1 qorIQ\_p1020rdb

**Author:** Joel Sherrill 2017-04-03T19:16:05.000Z

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

---

**Author:** Trac Migrate 2017-04-04T05:09:35.000Z

---

Ok, now I know why I didn't commit this patch years ago.

Should we add the U-Boot mkimage to the RTEMS tools? It is GPL software.

---

**Author:** Chris Johns 2017-04-04T06:04:04.000Z

---

Replying to [Sebastian Huber](#):

Should we add the U-Boot mkimage to the RTEMS tools? It is GPL software.

No. The RSB is fine, maybe a `rtems/config/bsps/qoriq` build set could be added which builds everything for the user of the BSP including uboot.

You could see if you can craft a configure test to detect the tool then update the build rule. This would allow those who do not have the tool to build and regression test building.

I also suggest you provide instructions in the Wiki under <https://devel.rtems.org/wiki/Boards> on how to get and build uboot, create images etc.

I see any post rules or stages as a wasted effort, even the size command. This should be handled outside of RTEMS. It is difficult to handle generically.

---

**Author:** Trac Migrate 2017-04-04T06:08:25.000Z

---

I am not sure if its easily possible to adjust anything in `make/custom/*` via the configure script.

---

**Author:** Chris Johns 2017-04-04T06:12:15.000Z

---

Replying to [Sebastian Huber](#):

I am not sure if its easily possible to adjust anything in `make/custom/*` via the configure script.

I am sure a bit of `m4` and whole lot of `./` is all you need ;)

---

**Author:** Trac Migrate 2017-04-05T05:10:15.000Z

---

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"a7dc155087b15359de22995645256df3eba69322/rtems" a7dc1550/rtems]:

```
1 bsp/qoriq: Comment out post-link hook
2
3 The U-Boot mkimage is not available in general.
4
5 Close #2969.
```

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.728 2967 - ARM: Change ABI to not use short enums

|                    |                                                                                                                                 |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2967                                                                                                                            |
| <b>State</b>       | closed                                                                                                                          |
| <b>Type</b>        | ISSUE                                                                                                                           |
| <b>Author</b>      | Trac Migrate                                                                                                                    |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                    |
| <b>Created</b>     | 2017-04-03T06:07:23.000Z                                                                                                        |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                        |
| <b>Milestone</b>   | 5.1                                                                                                                             |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, tool::gcc                                                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/2967">https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/2967</a> |
| <b>Merges</b>      | 0                                                                                                                               |

Original author: sebastian.huber

Whether enums are short or not is left open in the ARM EABI. On Linux and FreeBSD no short enums are used. Otherwise short enums are enabled by default.

Short enums may cause hard to find issues with 3rd party software, since the are quite unusual in general, e.g.

<https://git.rtems.org/rtems-libbsd/commit/freebsd/include/rpc?id=9880635f2e642380b69b85e00271649b3a2fc2de>

The data and structure layout may suddenly change in case enumeration values are added/removed. The benefit of short enums is probably not worth the trouble, since the packed compiler attribute can be used to individually make an enum short.

The reason for not choosing no short enums during the ARM EABI introduction was an issue with Newlib. This is addressed with the following patch:

<https://sourceware.org/ml/newlib/2017/msg00238.html>

---

**Author:** Trac Migrate 2017-04-03T06:07:37.000Z

---

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*

---

**Author:** Trac Migrate 2017-04-07T07:07:15.000Z

---

Original author: sebastian.huber

GCC changes are in place:

<https://gcc.gnu.org/viewcvs/gcc?view=revision&revision=246753> <https://gcc.gnu.org/viewcvs/gcc?view=revision&revision=246754>

---

**Author:** Trac Migrate 2017-04-07T07:19:04.000Z

---

Original author: sebastian.huber

GCC website update done (GCC 6.4 changes show up once released):

<https://gcc.gnu.org/gcc-6/changes.html> <https://gcc.gnu.org/gcc-7/changes.html>

---

**Author:** Trac Migrate 2017-06-08T07:30:12.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

Fixed due to change to GCC 7.1.

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.729 2965 - bootstrap sort inconsistent with sb-bootstrap for acinclude

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2965                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Gedare Bloom                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-03-31T19:48:58.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::4.11                                                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2965">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2965</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The output of bootstrap does not use a consistent sort order with sb-bootstrap. The difference appears to be in the default behavior of the sort command versus Python's sorted. By forcing the locale to C, sort should have a consistent behavior.

**Author:** Trac Migrate 2017-04-13T17:01:12.000Z

- **Owner** set to Gedare Bloom <[gedare@rtems.org](mailto:gedare@rtems.org)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"3be28ee6dde13ea75ac58a2b3e36c35d70436861/rtems" 3be28ee6/rtems]:

```
1 bootstrap: make sort use C locale consistently
2
3 Closes #2965.
```

**Author:** Trac Migrate 2017-04-13T17:19:04.000Z

In [changeset:"1731757c45d64031b38207c4549b7dcbd234dc13/rtems" 1731757c/rtems]:

```
1 bootstrap: regenerate files after sort order fix
2
3 Updates #2965.
```

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"



Milestone renamed

#### 4.2.1.730 2958 - Add some popular benchmark programs to the testsuite

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2958                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-03-28T13:10:52.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::testing, ticket-type::enhancement, version::5                                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2958">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2958</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Add dhrystone, whetstone and linpack benchmark programs to the testsuite. This may help to evaluate compiler settings, compiler versions and processors.

**Author:** Trac Migrate 2017-03-29T06:12:40.000Z

Original author: sebastian.huber

In [changeset:"002768254683ffe4a6614fe35254cf9dab88c6d0/rtems" 0027682/rtems]:

```
1 benchmarks: Add benchmark templates
2
3 Update #2958.
```

**Author:** Trac Migrate 2017-03-29T06:12:53.000Z

Original author: sebastian.huber

In [changeset:"317c1f41ea3d08d90d5d7566b4882c14a02874f3/rtems" 317c1f4/rtems]:

```
1 benchmarks/dhrystone: Import
2
3 Import dhrystone sources from:
4
5 http://www.netlib.org/benchmark/dhry-c
6
7 Update #2958.
```

**Author:** Trac Migrate 2017-03-29T06:13:05.000Z

Original author: sebastian.huber

In [changeset:"954ca410553f4c65c25700e077d6dca608ef471c/rtems"  
954ca41/rtems]:

```
1 benchmarks/dhrystone: Port to RTEMS
2
3 Update #2958.
```

**Author:** Trac Migrate 2017-03-29T06:13:17.000Z

Original author: sebastian.huber

In [changeset:"87836607418053b231edf7537a471596212532b6/rtems"  
8783660/rtems]:

```
1 benchmarks/linpack: Import
2
3 Import linpack sources from:
4
5 http://www.netlib.org/benchmark/linpack-pc.c
6
7 Update #2958.
```

**Author:** Trac Migrate 2017-03-29T06:13:28.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"0a16d5f4a007d71dd667ae3751b8dfee2c30f16b/rtems"  
0a16d5f/rtems]:

```
1 benchmarks/linpack: Port to RTEMS
2
3 Close #2958.
```

**Author:** Trac Migrate 2017-03-29T06:13:40.000Z

Original author: sebastian.huber

In [changeset:"3785f937797132ecf78006c62bd3cae1a132a832/rtems"  
3785f937/rtems]:

```
1 benchmarks/whetstone: Import
2
3 Import whetstone sources from:
4
```

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```

5 http://www.netlib.org/benchmark/whetstone.c
6
7 Update #2958.

```

**Author:** Trac Migrate 2017-03-29T06:13:52.000Z

Original author: sebastian.huber

In [changeset:"a1c60b5690a028aeafb62d13015fa56187bc3572/rtems" a1c60b56/rtems]:

```

1 benchmarks/whetstone: Port to RTEMS
2
3 Update #2958.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.731 2957 - Shared memory support internal locking is broken

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2957                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Gedare Bloom                                                                                                        |
| <b>Created</b>     | 2017-03-28T05:50:01.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5                                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2957">https://gitlab.rtems.org/rtems/rtems/-/issues/2957</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The top level lock is an ISR lock (interrupt disable/enable or SMP lock) and the low level lock is potentially a mutex. The problem is exposed by test psxshm02:

```

1 #0 _Terminate (the_source=INTERNAL_ERROR_CORE, the_error=31) at ../../../../../../
  ↳ /rtems/c/src/../../../../cpukit/score/src/interr.c:35
2 #1 0x00111654 in _Internal_error (core_error=INTERNAL_ERROR_BAD_THREAD_DISPATCH_
  ↳ ENVIRONMENT) at ../../../../../../rtems/c/src/../../../../cpukit/score/src/interr.c:52
3 #2 0x00117010 in _Thread_Do_dispatch (cpu_self=0x2035c0 <_Per_CPU_Information>,

```

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```

↪level=1611071955) at ../../../../../../rtems/c/src/../../../../cpukit/score/src/
↪threaddispatch.c:190
4 #3 0x0011a568 in _Thread_Dispatch_enable (cpu_self=0x2035c0 <_Per_CPU_
↪Information>) at ../../cpukit/../../../../realview_pbx_a9_qemu/lib/include/rtems/
↪score/threaddispatch.h:227
5 #4 0x0011b6c4 in _Thread_Change_life (clear=THREAD_LIFE_PROTECTED, set=THREAD_
↪LIFE_PROTECTED, ignore=(unknown: 0)) at ../../../../../../rtems/c/src/../../../../
↪cpukit/score/src/threadrestart.c:684
6 #5 0x0011b6ea in _Thread_Set_life_protection (state=THREAD_LIFE_PROTECTED) at ../
↪../../../../../../../../rtems/c/src/../../../../cpukit/score/src/threadrestart.c:691
7 #6 0x0010f3dc in _API_Mutex_Lock (the_mutex=0x2037d8) at ../../../../../../rtems/
↪c/src/../../../../cpukit/score/src/apimutexlock.c:31
8 #7 0x001050a0 in _RTEMS_Lock_allocator () at ../../cpukit/../../../../realview_pbx_
↪a9_qemu/lib/include/rtems/score/apimutex.h:120
9 #8 0x00105442 in rtems_heap_allocate_aligned_with_boundary (size=10004,
↪alignment=0, boundary=0) at ../../../../../../rtems/c/src/../../../../cpukit/
↪libcsupport/src/malloc_deferred.c:89
10 #9 0x001055a6 in malloc (size=10004) at ../../../../../../rtems/c/src/../../../../
↪cpukit/libcsupport/src/malloc.c:39
11 #10 0x0011e820 in realloc (ptr=0x0, size=10004) at ../../../../../../rtems/c/src/..
↪../../../../cpukit/libcsupport/src/realloc.c:62
12 #11 0x0010b1a2 in _POSIX_Shmem_Object_resize_from_heap (shm_obj=0x204870,
↪size=10004) at ../../../../../../rtems/c/src/../../../../cpukit/posix/src/shmheap.c:59
13 #12 0x0010b6ac in shm_ftruncate (iop=0x202cf8 <rtems_libio_iops+168>,
↪length=10004) at ../../../../../../rtems/c/src/../../../../cpukit/posix/src/shmopen.
↪c:83
14 #13 0x00104cfc in ftruncate (fd=3, length=10004) at ../../../../../../rtems/c/src/
↪../../../../cpukit/libcsupport/src/ftruncate.c:37
15 #14 0x001008e0 in POSIX_Init (argument=0x0) at ../../../../../../rtems/c/src/..
↪../../../../testsuites/psxtests/psxshm02/init.c:54
16 #15 0x001201ee in _Thread_Entry_adaptor_pointer (executing=0x2041a8) at ../../../../
↪../../../../rtems/c/src/../../../../cpukit/score/src/threadentryadaptorpointer.c:25
17 #16 0x00120302 in _Thread_Handler () at ../../../../../../rtems/c/src/../../../../
↪cpukit/score/src/threadhandler.c:88

```

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Gedare Bloom    2017-03-28T19:39:49.000Z |
|---------------------------------------------------------|

Original author: sebastian.huber

Yes: the shm code has some rather questionable design choices in its locking patterns. Here it acquires a thread\_queue and then calls a user plugin function, in this case malloc is called which eventually leads to the error shown.

Is there somewhere with guidance written for how to use the various lock constructs available in RTEMS? Or what are their constraints on use. Because I didn't even know this was a problem, and apparently did not spend much time thinking about this while writing the code.

The shm code uses 2 locking patterns. The one causing a problem here is the use of a thread\_queue to protect the invocations to operations on the shared-memory object.

This should be some fine-grained mutex lock that allows the operation invoked to also acquire/release internal locks such as is needed by malloc.

The other lock used is the `_Objects_Allocator_lock` to protect the integrity of the `POSIX_Shm_Control` Object. I think this one is fine.

---

**Author:** Trac Migrate 2017-03-29T05:34:52.000Z

---

Original author: sebastian.huber

Replying to [Gedare](#):

Yes: the shm code has some rather questionable design choices in its locking patterns. Here it acquires a `thread_queue` and then calls a user plugin function, in this case malloc is called which eventually leads to the error shown. Is there somewhere with guidance written for how to use the various lock constructs available in RTEMS? Or what are their constraints on use. Because I didn't even know this was a problem, and apparently did not spend much time thinking about this while writing the code.

Good question, maybe we should something add to the manual, e.g. in Key Concepts, 3.3 Communication and Synchronization.

The shm code uses 2 locking patterns. The one causing a problem here is the use of a `thread_queue` to protect the invocations to operations on the shared-memory object. This should be some fine-grained mutex lock that allows the operation invoked to also acquire/release internal locks such as is needed by malloc.

The thread queue should be replaced with a mutex. For simplicity, maybe just the allocator mutex. We really need the self-contained mutexes for internal use.

The other lock used is the `_Objects_Allocator_lock` to protect the integrity of the `POSIX_Shm_Control` Object. I think this one is fine.

Yes.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Gedare Bloom 2017-06-30T13:21:04.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"

- **Status** changed from *assigned* to *closed*

fixed in bd9d5ebc33c35d91b5ca0746b6b78a365eeb726d

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2017-11-09T06:27:14.000Z |
|-----------------------------|--------------------------|

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.732 2954 - ARM: Optimize context switch

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2954                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-03-27T07:36:00.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:arm, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2954">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2954</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Set CPU\_ENABLE\_ROBUST\_THREAD\_DISPATCH to TRUE. In this case the interrupts are always enabled during a context switch even after interrupt processing (see #2751). Remove the CPSR from the context control since it contains only volatile bits.

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2017-03-28T08:34:46.000Z |
|-----------------------------|--------------------------|

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

In [changeset:”cd3d74793a4e2ec93cefdddb855d4536d44c7e64/rtems”  
cd3d747/rtems]:

```

1 arm: Optimize context switch
2
3 Set CPU_ENABLE_ROBUST_THREAD_DISPATCH to TRUE. In this case the
4 interrupts are always enabled during a context switch even after
5 interrupt processing (see #2751). Remove the CPSR from the context
6 control since it contains only volatile bits.
7
8 Close #2954.
```

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.733 2946 - Add a top level global testsuite configuration file (.tcfg) and a ‘user-input’ test state.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2946                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-03-21T00:24:03.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::testing, ticket-type::enhancement, version::5                                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2946">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2946</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Adding a top level testsuite configuration file lets us specify tests that have a common test state across all BSPs.

Adding the test state ‘user-input’ clearly tags the test as needing user input and test result tools can correctly determine the test result. The current practice of passing a test needing user input is actually hiding the real result of the test.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %”4.12” to %”4.12.0”

---

**Author:** Joel Sherrill 2017-10-11T23:47:54.000Z

---

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

Chris says he fixed this.

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

## 4.2.1.734 2945 - Many failures on LEON3 with SMP disabled

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2945                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-03-20T22:54:12.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::highest, resolution::worksforme, tickettype::defect, version::5                                                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2945">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2945</a> |
| <b>Merges</b>      | 0                                                                                                                             |

There are approximately ~100 failures, timeouts, etc on the LEON3 BSP. See this thread for some discussion where Jiri notes it is broken on his checkout from December:

<https://lists.rtems.org/pipermail/devel/2017-March/017277.html>

Passed: 458 Failed: 20 Timeouts: 73 Invalid: 3 ————— Total: 554

Failures: cdtest.exe spintrcritical20.exe dl05.exe spintrcritical01.exe spintrcritical04.exe spintrcritical10.exe spintrcritical22.exe sp69.exe spintrcritical21.exe sp11.exe spintrcritical16.exe spintrcritical23.exe psxfile01.exe spintrcritical05.exe spintrcritical02.exe spintrcritical08.exe psxgetrusage01.exe spcpucounter01.exe spintrcritical03.exe psxtimes01.exe Timeouts: nsecs.exe sptask\_err02.exe spprivenv01.exe psxkey03.exe psxsignal01.exe psx06.exe psx10.exe sp04.exe mrfs\_fstime.exe ticker.exe psxmsgq03.exe psxkey09.exe psx07.exe sp-timerserver01.exe psxusleep.exe psxstack02.exe psxkey07.exe psxkey10.exe stackchk.exe sp01.exe fileio.exe spsimplesched01.exe sp03.exe psxcond01.exe sp65.exe sp62.exe psx11.exe psx12.exe psx02.exe imfs\_fstime.exe crypt01.exe psxstack01.exe spcbssched01.exe termios.exe mimfs\_fstime.exe psxsignal02.exe psx08.exe top.exe psxrwlock01.exe sp22.exe psxsignal04.exe psxkey04.exe mouse01.exe sp24.exe psx04.exe spedfsched01.exe uid01.exe mdosfs\_fstime.exe psx16.exe psxaio03.exe sp19.exe psxtime.exe psx09.exe psxkey06.exe psxclock.exe cpu-use.exe psx05.exe sp66.exe psxsignal03.exe capture.exe sp30.exe psxcleanup.exe psxcancel.exe jffs2\_fstime.exe psxsignal06.exe spstdthreads01.exe psxbarrier01.exe sp31.exe sp73.exe psx-ualarm.exe spfifo03.exe psxtimer01.exe monitor.exe Invalid: cxx\_iostream.exe spinternalerror01.exe sptimecounter01.exe

**Author:** Joel Sherrill 2017-03-20T22:54:56.000Z

- **Owner** set to daniel

**Author:** Chris Johns 2017-03-21T00:07:52.000Z

Replying to [Joel Sherrill](#):

There are approximately ~100 failures, timeouts, etc on the LEON3 BSP. See this thread for some discussion where Jiri notes it is broken on his checkout from December: <https://lists.rtems.org/pipermail/devel/2017-March/017277.html> Passed: 458 Failed: 20 Timeouts: 73 Invalid: 3 ————— Total: 554



What are the results with SMP enabled?

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-05-12T09:42:39.000Z

I have not managed to reproduce so many failures on GR712RC, GR740 or TSIM. Below are the failures I get from the run yesterday on non-SMP RTEMS configuration at GR712RC LEON3. The five fstests below have been discussed before and I believe they are related to the same faulty newlib configure used when the toolchain was built. Left is 4 tests which we will have to analyse.

I'm would argue that this should not block the 4.12 branching?

```
[usr1] #####
[usr1] # RTEMS TESTSUITE FAILURE SUMMARY [usr1] # [usr1] # Result Test
ExecRes ConsoleRes ExitCode1 ExitCode2 [usr1] # FAIL: ./fstests/imfs_fsscandir01
OK FAIL 5 0 [usr1] # FAIL: ./fstests/jffs2_fsscandir01 OK FAIL 5 0 [usr1] # FAIL:
./fstests/mdosfs_fsscandir01 OK FAIL 5 0 [usr1] # FAIL: ./fstests/mimfs_fsscandir01
OK FAIL 5 0 [usr1] # FAIL: ./fstests/mrfs_fsscandir01 OK FAIL 5 0 [usr1] # FAIL:
./libtests/tar01 OK FAIL 5 0 [usr1] # FAIL: ./psxtests/psxsem01 OK FAIL 5 11
[usr1] # FAIL: ./sptests/spinternalerror01 OK N/A -559038737 1611526157
[usr1] # FAIL: ./sptests/sptimecounter01 OK N/A 5 0 [usr1] # [usr1] # SUM-
MARY [usr1] # Tests failing: 9 [usr1] # Tests successful: 534 [usr1] # [usr1]
#####
```

**Author:** Trac Migrate 2017-05-12T09:46:03.000Z

- **Resolution** set to ~"worksforme"
- **Status** changed from *assigned* to *closed*

**Author:** Trac Migrate 2017-05-12T09:53:58.000Z

Which tool chain did you use?

Why are there fsscandir01 failures?

**Author:** Trac Migrate 2017-05-12T10:03:05.000Z

It happens on both GCC-6 and GCC-7 series. It is our own build, I think it is the configuration of it that is an issue.

```
[usr1] # FAIL: ./fstests/imfs_fsscandir01 OK FAIL 5 0 [usr1] # FAIL:
./fstests/jffs2_fsscandir01 OK FAIL 5 0 [usr1] # FAIL: ./fstests/mdosfs_fsscandir01
OK FAIL 5 0 [usr1] # FAIL: ./fstests/mimfs_fsscandir01 OK FAIL 5 0 [usr1] # FAIL:
./fstests/mrfs_fsscandir01 OK FAIL 5 0
```

all fail with similar error message:

```
[term1] * BEGIN OF TEST FSSCANDIR ROOT IMFS * [term1] Initializing filesystem
ROOT IMFS [term1] scandir: Success [term1] /opt/rtems-4.12/src/rtems-4.12/c/src/../../testsuites/fstests/imfs_fsscandir01/../../fsscandir01/init.c: 47
MAXNAMLEN == NAME_MAX
```

**Author:** Trac Migrate 2017-05-12T10:08:13.000Z

It would be quite nice if your RCC is next to identical to the tool chain produced by the RSB. This issue was fixed in January 2017 in the RTEMS master.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.735 2943 - rtems building error

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2943                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-03-18T07:07:28.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::wontfix, tickettype::defect, version::4.11                                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2943">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2943</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: hunk3749

i am attaching the screenshot of file system

- [Screenshot from 2017-03-18 09:51:42.png](#)

**Author:** Trac Migrate 2017-03-18T07:07:57.000Z

Original author: hunk3749

- **Attachment** [Screenshot from 2017-03-18 09:51:42.png](#) added

**Author:** Chris Johns 2017-03-20T04:06:56.000Z

Original author: hunk3749

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

I am sorry, I do not understand the purpose of the ticket.

Tickets are for bugs or issues in RTEMS or one of its packages. If you need support please ask on the RTEMS User's mailing list.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: hunk3749

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: hunk3749

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.736 2942 - rtems building error

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2942                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-03-17T14:28:11.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::invalid, tickettype::defect, version::4.11                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2942">https://gitlab.rtems.org/rtems/rtems/-/issues/2942</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: hunk3749

```

dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~$ export PATH=$HOME/development/rtems/4.12/bin:$PATH
dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~$ cd dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~$ cd development/rtems
dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~/development/rtems$ mkdir kernel
dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~/development/rtems$ cd kernel
dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~/development/rtems/kernel$ git clone git://git.rtems.org/rtems.git
Cloning into 'rtems'...
remote: Counting objects: 504955, done.
remote: Compressing objects: 100% (90780/90780), done.
remote: Total 504955 (delta 407126), reused 499936 (delta 403143)
Receiving objects: 100% (504955/504955), 73.12 MiB | 113 KiB/s, done.
Resolving deltas: 100% (407126/407126), done.
dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~/development/rtems/kernel$ cd rtems
dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~/development/rtems/kernel/rtems$ ./bootstrap -c && ./bootstrap -p &&

```

\$HOME/development/rtems/rsb/source-builder/sb-bootstrap removing automake generated Makefile.in files removing configure files removing aclocal.m4 files Generating ./cpukit/libmisc/preinstall.am Generating ./cpukit/preinstall.am Generating

```

./cpukit/ftpd/preinstall.am Generating ./cpukit/mghttpd/preinstall.am Generating
./cpukit/score/preinstall.am Generating ./cpukit/score/cpu/no_cpu/preinstall.am
Generating ./cpukit/score/cpu/arm/preinstall.am Gen-
erating ./cpukit/score/cpu/lm32/preinstall.am Gener-
ating ./cpukit/score/cpu/nios2/preinstall.am Generat-
ing ./cpukit/score/cpu/epiphany/preinstall.am Gener-
ating ./cpukit/score/cpu/sparc64/preinstall.am Gen-
erating ./cpukit/score/cpu/m32c/preinstall.am Gen-
erating ./cpukit/score/cpu/i386/preinstall.am Gen-
erating ./cpukit/score/cpu/mips/preinstall.am Gen-
erating ./cpukit/score/cpu/v850/preinstall.am Gen-
erating ./cpukit/score/cpu/or1k/preinstall.am Gen-
erating ./cpukit/score/cpu/bfin/preinstall.am Gener-
ating ./cpukit/score/cpu/sh/preinstall.am Generat-
ing ./cpukit/score/cpu/m68k/preinstall.am Generat-
ing ./cpukit/score/cpu/powerpc/preinstall.am Generat-
ing ./cpukit/score/cpu/moxie/preinstall.am Generating
./cpukit/score/cpu/sparc/preinstall.am Generating ./cpukit/libcrypt/preinstall.am
Generating ./cpukit/dev/preinstall.am Generating ./cpukit/libpci/preinstall.am
Generating ./cpukit/wrapup/preinstall.am Generating
./cpukit/sapi/preinstall.am Generating ./cpukit/libdl/preinstall.am
Generating ./cpukit/libcsupport/preinstall.am Generating
./cpukit/pppd/preinstall.am Generating ./cpukit/dtc/libfdt/preinstall.am Gener-
ating ./cpukit/libnetworking/preinstall.am Generating ./cpukit/libfs/preinstall.am
Generating ./cpukit/libfs/src/nfsclient/preinstall.am Generating
./cpukit/zlib/preinstall.am Generating ./cpukit/posix/preinstall.am Generat-
ing ./cpukit/librpc/preinstall.am Generating ./cpukit/telnetd/preinstall.am
Generating ./cpukit/libdebugger/preinstall.am Generating
./cpukit/rtems/preinstall.am Generating ./cpukit/libmd/preinstall.am Gener-
ating ./c/src/wrapup/preinstall.am Generating ./c/src/libchip/preinstall.am
Generating ./c/src/lib/libbsp/no_cpu/no_bsp/preinstall.am
Generating ./c/src/lib/libbsp/preinstall.am Generat-
ing ./c/src/lib/libbsp/arm/csb336/preinstall.am Generat-
ing ./c/src/lib/libbsp/arm/smdk2410/preinstall.am Gener-
ating ./c/src/lib/libbsp/arm/realview-pbx-a9/preinstall.am
Generating ./c/src/lib/libbsp/arm/preinstall.am Generat-
ing ./c/src/lib/libbsp/arm/stm32f4/preinstall.am Gener-
ating ./c/src/lib/libbsp/arm/atsam/preinstall.am Generat-
ing ./c/src/lib/libbsp/arm/rtl22xx/preinstall.am Generat-
ing ./c/src/lib/libbsp/arm/csb337/preinstall.am Generat-
ing ./c/src/lib/libbsp/arm/beagle/preinstall.am Generat-
ing ./c/src/lib/libbsp/arm/edb7312/preinstall.am Generat-
ing ./c/src/lib/libbsp/arm/lm3s69xx/preinstall.am Generat-
ing ./c/src/lib/libbsp/arm/lpc176x/preinstall.am Generat-
ing ./c/src/lib/libbsp/arm/lpc24xx/preinstall.am Generat-
ing ./c/src/lib/libbsp/arm/gumstix/preinstall.am Generat-
ing ./c/src/lib/libbsp/arm/xilinx-zynq/preinstall.am Gener-
ating ./c/src/lib/libbsp/arm/gdbarmsim/preinstall.am Gen-
erating ./c/src/lib/libbsp/arm/lpc32xx/preinstall.am Gener-
ating ./c/src/lib/libbsp/arm/tms570/preinstall.am Generat-
ing ./c/src/lib/libbsp/arm/raspberrypi/preinstall.am Generat-

```

|            |                                                           |            |
|------------|-----------------------------------------------------------|------------|
| ing        | ./c/src/lib/libbsp/arm/altera-cyclone-v/preinstall.am     | Gen-       |
| erating    | ./c/src/lib/libbsp/lm32/milkymist/preinstall.am           | Gen-       |
| erating    | ./c/src/lib/libbsp/lm32/lm32_evr/preinstall.am            | Gen-       |
| erating    | ./c/src/lib/libbsp/nios2/nios2_iss/preinstall.am          | Gen-       |
| erating    | ./c/src/lib/libbsp/epiphany/preinstall.am                 | Generating |
|            | ./c/src/lib/libbsp/epiphany/epiphany_sim/preinstall.am    | Gen-       |
| erating    | ./c/src/lib/libbsp/sparc64/niagara/preinstall.am          | Gen-       |
| erating    | ./c/src/lib/libbsp/sparc64/usiii/preinstall.am            | Gener-     |
| ating      | ./c/src/lib/libbsp/m32c/m32cbasp/preinstall.am            | Gen-       |
| erating    | ./c/src/lib/libbsp/i386/pc386/preinstall.am               | Gener-     |
| ating      | ./c/src/lib/libbsp/mips/rbtx4938/preinstall.am            | Gener-     |
| ating      | ./c/src/lib/libbsp/mips/rbtx4925/preinstall.am            | Gener-     |
| ating      | ./c/src/lib/libbsp/mips/hurricane/preinstall.am           | Gen-       |
| erating    | ./c/src/lib/libbsp/mips/jmr3904/preinstall.am             | Gen-       |
| erating    | ./c/src/lib/libbsp/mips/malta/preinstall.am               | Gen-       |
| erating    | ./c/src/lib/libbsp/mips/csb350/preinstall.am              | Gen-       |
| erating    | ./c/src/lib/libbsp/v850/preinstall.am                     | Generating |
|            | ./c/src/lib/libbsp/v850/gdbv850sim/preinstall.am          | Generating |
|            | ./c/src/lib/libbsp/or1k/preinstall.am                     | Generating |
| Generating | ./c/src/lib/libbsp/or1k/generic_or1k/preinstall.am        | Gen-       |
| erating    | ./c/src/lib/libbsp/bfin/TLL6527M/preinstall.am            | Gen-       |
| ating      | ./c/src/lib/libbsp/bfin/bf537Stamp/preinstall.am          | Gener-     |
|            | ./c/src/lib/libbsp/bfin/eZKit533/preinstall.am            | Generating |
|            | ./c/src/lib/libbsp/sh/gensh2/preinstall.am                | Generating |
| Generating | ./c/src/lib/libbsp/sh/gensh1/preinstall.am                | Generating |
|            | ./c/src/lib/libbsp/sh/gensh4/preinstall.am                | Generating |
|            | ./c/src/lib/libbsp/sh/shsim/preinstall.am                 | Generating |
| Generating | ./c/src/lib/libbsp/m68k/mcf5235/preinstall.am             | Generating |
|            | ./c/src/lib/libbsp/m68k/genmcf548x/preinstall.am          | Generating |
|            | ./c/src/lib/libbsp/m68k/preinstall.am                     | Generating |
| Generating | ./c/src/lib/libbsp/m68k/mcf5329/preinstall.am             | Gener-     |
|            | ./c/src/lib/libbsp/m68k/csb360/preinstall.am              | Gener-     |
| ating      | ./c/src/lib/libbsp/m68k/av5282/preinstall.am              | Generating |
|            | ./c/src/lib/libbsp/m68k/mcf5225x/preinstall.am            | Generating |
| Generating | ./c/src/lib/libbsp/m68k/mvme147s/preinstall.am            | Generating |
|            | ./c/src/lib/libbsp/m68k/mvme162/preinstall.am             | Generating |
|            | ./c/src/lib/libbsp/m68k/gen68360/preinstall.am            | Generating |
| Generating | ./c/src/lib/libbsp/m68k/mrm332/preinstall.am              | Generating |
|            | ./c/src/lib/libbsp/m68k/gen68340/preinstall.am            | Generating |
|            | ./c/src/lib/libbsp/m68k/mcf52235/preinstall.am            | Generating |
| Generating | ./c/src/lib/libbsp/m68k/mvme167/preinstall.am             | Generating |
|            | ./c/src/lib/libbsp/m68k/uC5282/preinstall.am              | Generating |
|            | ./c/src/lib/libbsp/m68k/mvme147/preinstall.am             | Generating |
| Generating | ./c/src/lib/libbsp/m68k/mcf5206elite/preinstall.am        | Generating |
|            | ./c/src/lib/libbsp/powerpc/motorola_powerpc/preinstall.am | Generating |
| Generating | ./c/src/lib/libbsp/powerpc/virtex5/preinstall.am          | Generating |
|            | ./c/src/lib/libbsp/powerpc/haleakala/preinstall.am        | Generating |
| Generating | ./c/src/lib/libbsp/powerpc/ss555/preinstall.am            | Generating |
|            | ./c/src/lib/libbsp/powerpc/qemuppc/preinstall.am          | Generating |
|            | ./c/src/lib/libbsp/powerpc/gen83xx/preinstall.am          | Generating |
| Generating | ./c/src/lib/libbsp/powerpc/gen5200/preinstall.am          | Generating |
|            | ./c/src/lib/libbsp/powerpc/virtex/preinstall.am           | Generating |
| Generating | ./c/src/lib/libbsp/powerpc/mpc/preinstall.am              | Generating |
|            | ./c/src/lib/libbsp/powerpc/t32mppc/preinstall.am          | Generating |
| Generating | ./c/src/lib/libbsp/powerpc/virtex4/preinstall.am          | Generating |
|            | ./c/src/lib/libbsp/powerpc/mvme3100/preinstall.am         | Generating |
| Generating | ./c/src/lib/libbsp/powerpc/beatnik/preinstall.am          | Generating |
|            | ./c/src/lib/libbsp/powerpc/qorIQ/preinstall.am            | Generating |
| Generating | ./c/src/lib/libbsp/powerpc/tqm8xx/preinstall.am           | Generating |
|            | ./c/src/lib/libbsp/powerpc/mvme5500/preinstall.am         | Generating |
| Generating | ./c/src/lib/libbsp/powerpc/psim/preinstall.am             | Generating |
|            | ./c/src/lib/libbsp/powerpc/moxie/moxiesim/preinstall.am   | Generating |
| Generating | ./c/src/lib/libbsp/sparc/erc32/preinstall.am              | Generating |
|            | ./c/src/lib/libbsp/sparc/leon3/preinstall.am              | Generating |
| Generating | ./c/src/lib/libbsp/sparc/leon2/preinstall.am              | Generating |
|            | ./c/src/lib/libcpu/arm/preinstall.am                      | Generating |
| Generating | ./c/src/lib/libcpu/lm32/preinstall.am                     | Generating |
|            | ./c/src/lib/libcpu/nios2/preinstall.am                    | Generating |

```

Generating ./c/src/lib/libcpu/sparc64/preinstall.am Generating ./c/src/lib/libcpu/i386/preinstall.am
Generating ./c/src/lib/libcpu/mips/preinstall.am Generating ./c/src/lib/libcpu/or1k/preinstall.am
Generating ./c/src/lib/libcpu/bfin/preinstall.am Generating ./c/src/lib/libcpu/sh/preinstall.am
Generating ./c/src/lib/libcpu/m68k/preinstall.am Generating ./c/src/lib/libcpu/powerpc/preinstall.am
Generating ./c/src/lib/libcpu/sparc/preinstall.am Generating ./c/src/ada/preinstall.am
bash: /home/dhanpal/development/rtems/rsb/source-builder/sb-bootstrap: No
such file or directory dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~/development/rtems/kernel/rtem
sudo -s [sudo] password for dhanpal: root@dhanpal-HP-Pavilion-15-Notebook-
PC:~/development/rtems/kernel/rtems# ./bootstrap -c && ./bootstrap -p &&

```

```

$HOME/development/rtems/rsb/source-builder/sb-bootstrap removing
automake generated Makefile.in files removing configure files removing
aclocal.m4 files Generating ./cpukit/libmisc/preinstall.am Generat-
ing ./cpukit/preinstall.am Generating ./cpukit/ftpd/preinstall.am
Generating ./cpukit/mghttpd/preinstall.am Gen-
erating ./cpukit/score/preinstall.am Generating
./cpukit/score/cpu/no_cpu/preinstall.am Generat-
ing ./cpukit/score/cpu/arm/preinstall.am Generat-
ing ./cpukit/score/cpu/lm32/preinstall.am Generat-
ing ./cpukit/score/cpu/nios2/preinstall.am Generat-
ing ./cpukit/score/cpu/epiphany/preinstall.am Gener-
ating ./cpukit/score/cpu/sparc64/preinstall.am Gen-
erating ./cpukit/score/cpu/m32c/preinstall.am Gen-
erating ./cpukit/score/cpu/i386/preinstall.am Gen-
erating ./cpukit/score/cpu/mips/preinstall.am Gen-
erating ./cpukit/score/cpu/v850/preinstall.am Gen-
erating ./cpukit/score/cpu/or1k/preinstall.am Gen-
erating ./cpukit/score/cpu/bfin/preinstall.am Gener-
ating ./cpukit/score/cpu/sh/preinstall.am Generat-
ing ./cpukit/score/cpu/m68k/preinstall.am Generat-
ing ./cpukit/score/cpu/powerpc/preinstall.am Gen-
erating ./cpukit/score/cpu/moxie/preinstall.am Gen-
erating ./cpukit/score/cpu/sparc/preinstall.am Gen-
erating ./cpukit/libcrypt/preinstall.am Generating
./cpukit/dev/preinstall.am Generating ./cpukit/libpci/preinstall.am
Generating ./cpukit/wrapup/preinstall.am Generating
./cpukit/sapi/preinstall.am Generating ./cpukit/libdl/preinstall.am
Generating ./cpukit/libcsupport/preinstall.am Gen-
erating ./cpukit/pppd/preinstall.am Generat-
ing ./cpukit/dtc/libfdt/preinstall.am Generat-
ing ./cpukit/libnetworking/preinstall.am Gen-
erating ./cpukit/libfs/preinstall.am Generating
./cpukit/libfs/src/nfsclient/preinstall.am Generating
./cpukit/zlib/preinstall.am Generating ./cpukit/posix/preinstall.am
Generating ./cpukit/librpc/preinstall.am Gen-
erating ./cpukit/telnetd/preinstall.am Generat-
ing ./cpukit/libdebugger/preinstall.am Generating
./cpukit/rtems/preinstall.am Generating ./cpukit/libmd/preinstall.am
Generating ./c/src/wrapup/preinstall.am Gen-
erating ./c/src/libchip/preinstall.am Generating
./c/src/lib/libbsp/no_cpu/no_bsp/preinstall.am Gen-
erating ./c/src/lib/libbsp/preinstall.am Generating

```

|                                                           |            |
|-----------------------------------------------------------|------------|
| ./c/src/lib/libbsp/arm/csb336/preinstall.am               | Generating |
| ./c/src/lib/libbsp/arm/smdk2410/preinstall.am             | Generat-   |
| ing ./c/src/lib/libbsp/arm/realview-pbx-a9/preinstall.am  |            |
| Generating ./c/src/lib/libbsp/arm/preinstall.am           | Generat-   |
| ing ./c/src/lib/libbsp/arm/stm32f4/preinstall.am          | Gener-     |
| ating ./c/src/lib/libbsp/arm/atsam/preinstall.am          | Generat-   |
| ing ./c/src/lib/libbsp/arm/rtl22xx/preinstall.am          | Generat-   |
| ing ./c/src/lib/libbsp/arm/csb337/preinstall.am           | Generat-   |
| ing ./c/src/lib/libbsp/arm/beagle/preinstall.am           | Generat-   |
| ing ./c/src/lib/libbsp/arm/edb7312/preinstall.am          | Generat-   |
| ing ./c/src/lib/libbsp/arm/lm3s69xx/preinstall.am         | Generat-   |
| ing ./c/src/lib/libbsp/arm/lpc176x/preinstall.am          | Generat-   |
| ing ./c/src/lib/libbsp/arm/lpc24xx/preinstall.am          | Generat-   |
| ing ./c/src/lib/libbsp/arm/gumstix/preinstall.am          | Generat-   |
| ing ./c/src/lib/libbsp/arm/xilinx-zynq/preinstall.am      | Gener-     |
| ating ./c/src/lib/libbsp/arm/gdbarmsim/preinstall.am      | Gen-       |
| erating ./c/src/lib/libbsp/arm/lpc32xx/preinstall.am      | Gener-     |
| ating ./c/src/lib/libbsp/arm/tms570/preinstall.am         | Generat-   |
| ing ./c/src/lib/libbsp/arm/raspberrypi/preinstall.am      | Generat-   |
| ing ./c/src/lib/libbsp/arm/altera-cyclone-v/preinstall.am | Gen-       |
| erating ./c/src/lib/libbsp/lm32/milkymist/preinstall.am   | Gen-       |
| erating ./c/src/lib/libbsp/lm32/lm32_evr/preinstall.am    | Gen-       |
| erating ./c/src/lib/libbsp/nios2/nios2_iss/preinstall.am  | Gen-       |
| erating ./c/src/lib/libbsp/epiphany/preinstall.am         | Generating |
| ./c/src/lib/libbsp/epiphany/epiphany_sim/preinstall.am    | Gen-       |
| erating ./c/src/lib/libbsp/sparc64/niagara/preinstall.am  | Gen-       |
| erating ./c/src/lib/libbsp/sparc64/usiii/preinstall.am    | Gener-     |
| ating ./c/src/lib/libbsp/m32c/m32cbasp/preinstall.am      | Gen-       |
| erating ./c/src/lib/libbsp/i386/pc386/preinstall.am       | Gener-     |
| ating ./c/src/lib/libbsp/mips/rbtx4938/preinstall.am      | Gener-     |
| ating ./c/src/lib/libbsp/mips/rbtx4925/preinstall.am      | Gener-     |
| ating ./c/src/lib/libbsp/mips/hurricane/preinstall.am     | Gen-       |
| erating ./c/src/lib/libbsp/mips/jmr3904/preinstall.am     | Gen-       |
| erating ./c/src/lib/libbsp/mips/malta/preinstall.am       | Gen-       |
| erating ./c/src/lib/libbsp/mips/csb350/preinstall.am      | Gen-       |
| erating ./c/src/lib/libbsp/v850/preinstall.am             | Generat-   |
| ing ./c/src/lib/libbsp/v850/gdbv850sim/preinstall.am      | Gen-       |
| erating ./c/src/lib/libbsp/or1k/preinstall.am             | Generating |
| ./c/src/lib/libbsp/or1k/generic_or1k/preinstall.am        | Generat-   |
| ing ./c/src/lib/libbsp/bfin/TLL6527M/preinstall.am        | Gener-     |
| ating ./c/src/lib/libbsp/bfin/bf537Stamp/preinstall.am    | Gen-       |
| erating ./c/src/lib/libbsp/bfin/eZKit533/preinstall.am    | Gen-       |
| erating ./c/src/lib/libbsp/sh/gensh2/preinstall.am        | Gener-     |
| ating ./c/src/lib/libbsp/sh/gensh1/preinstall.am          | Gener-     |
| ating ./c/src/lib/libbsp/sh/gensh4/preinstall.am          | Gener-     |
| ating ./c/src/lib/libbsp/sh/shsim/preinstall.am           | Generat-   |
| ing ./c/src/lib/libbsp/m68k/mcf5235/preinstall.am         | Gen-       |
| erating ./c/src/lib/libbsp/m68k/genmcf548x/preinstall.am  |            |
| Generating ./c/src/lib/libbsp/m68k/preinstall.am          | Generat-   |
| ing ./c/src/lib/libbsp/m68k/mcf5329/preinstall.am         | Generat-   |
| ing ./c/src/lib/libbsp/m68k/csb360/preinstall.am          | Generat-   |

```

ing      ./c/src/lib/libbsp/m68k/av5282/preinstall.am    Generat-
ing      ./c/src/lib/libbsp/m68k/mcf5225x/preinstall.am  Generat-
ing      ./c/src/lib/libbsp/m68k/mvme147s/preinstall.am  Gener-
ating    ./c/src/lib/libbsp/m68k/mvme162/preinstall.am  Gener-
ating    ./c/src/lib/libbsp/m68k/gen68360/preinstall.am  Gener-
ating    ./c/src/lib/libbsp/m68k/mrm332/preinstall.am    Gener-
ating    ./c/src/lib/libbsp/m68k/gen68340/preinstall.am  Gener-
ating    ./c/src/lib/libbsp/m68k/mcf52235/preinstall.am  Gener-
ating    ./c/src/lib/libbsp/m68k/mvme167/preinstall.am   Gener-
ating    ./c/src/lib/libbsp/m68k/uC5282/preinstall.am    Generat-
ing      ./c/src/lib/libbsp/m68k/mvme147/preinstall.am   Generating
./c/src/lib/libbsp/m68k/mcf5206elite/preinstall.am      Generating
./c/src/lib/libbsp/powerpc/motorola_powerpc/preinstall.am  Gen-
erating    ./c/src/lib/libbsp/powerpc/virtex5/preinstall.am  Gener-
ating    ./c/src/lib/libbsp/powerpc/haleakala/preinstall.am  Gen-
erating    ./c/src/lib/libbsp/powerpc/ss555/preinstall.am    Gener-
ating    ./c/src/lib/libbsp/powerpc/qemuppc/preinstall.am    Gener-
ating    ./c/src/lib/libbsp/powerpc/gen83xx/preinstall.am    Gener-
ating    ./c/src/lib/libbsp/powerpc/gen5200/preinstall.am    Gener-
ating    ./c/src/lib/libbsp/powerpc/virtex/preinstall.am     Generat-
ing      ./c/src/lib/libbsp/powerpc/mpc55xxevb/preinstall.am  Gen-
erating    ./c/src/lib/libbsp/powerpc/t32mppc/preinstall.am  Gen-
erating    ./c/src/lib/libbsp/powerpc/virtex4/preinstall.am  Gener-
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erating    ./c/src/lib/libbsp/powerpc/beatnik/preinstall.am  Gener-
erating    ./c/src/lib/libbsp/powerpc/qoriq/preinstall.am    Generat-
ing      ./c/src/lib/libbsp/powerpc/tqm8xx/preinstall.am     Generat-
ing      ./c/src/lib/libbsp/powerpc/mvme5500/preinstall.am    Gen-
erating    ./c/src/lib/libbsp/powerpc/mpc8260ads/preinstall.am
Generating    ./c/src/lib/libbsp/powerpc/psim/preinstall.am
Generating    ./c/src/lib/libbsp/moxie/moxiesim/preinstall.am
Generating    ./c/src/lib/libbsp/sparc/erc32/preinstall.am
Generating    ./c/src/lib/libbsp/sparc/leon3/preinstall.am
Generating    ./c/src/lib/libbsp/sparc/leon2/preinstall.am
Generating    ./c/src/lib/libcpu/arm/preinstall.am          Gen-
erating    ./c/src/lib/libcpu/lm32/preinstall.am            Gener-
ating    ./c/src/lib/libcpu/nios2/preinstall.am              Gener-
ating    ./c/src/lib/libcpu/sparc64/preinstall.am            Gen-
erating    ./c/src/lib/libcpu/i386/preinstall.am             Gen-
erating    ./c/src/lib/libcpu/mips/preinstall.am             Gen-
erating    ./c/src/lib/libcpu/or1k/preinstall.am             Gen-
erating    ./c/src/lib/libcpu/bfin/preinstall.am             Gen-
erating    ./c/src/lib/libcpu/sh/preinstall.am               Gener-
ating    ./c/src/lib/libcpu/m68k/preinstall.am              Gen-
erating    ./c/src/lib/libcpu/powerpc/preinstall.am          Gener-
Generating    ./c/src/lib/libcpu/sparc/preinstall.am
Generating    ./c/src/ada/preinstall.am                      bash:
/home/dhanpal/development/rtems/rsb/source-builder/sb-bootstrap:
No such file or directory root@dhanpal-HP-Pavilion-15-Notebook-
PC:~/development/rtems/kernel/rtems#

```



---

**Author:** Gedare Bloom 2017-03-17T19:37:30.000Z

---

Original author: hunk3749

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

This says there is no file found at the location of \$HOME/development/rtems/rsb/source-builder/sb-bootstrap

Please check your file system to see where you have checked out RSB. (I see from your other ticket you filed that it is in fact \$HOME/development/rtems/rsb/rtems-source-builder/source-builder/sb-bootstrap that you need.

Also, it is not recommended to run the source builder as the root user, or even as sudo.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: hunk3749

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: hunk3749

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.737 2941 - building rsb freezes

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2941                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-03-17T11:05:30.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::invalid, tickettype::defect, tool::rtems-source-builder, version::4.11                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2941">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2941</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: hunk3749

```

dhanpal@dhanpal-HP-Pavilion-15-Notebook-PC:~$ cd dhanpal@dhanpal-HP-Pavilion-
15-Notebook-PC:~$ mkdir -p development/rtems/rsb dhanpal@dhanpal-HP-Pavilion-
15-Notebook-PC:~$ cd development/rtems/rsb dhanpal@dhanpal-HP-Pavilion-

```

```

15-Notebook-PC:~/development/rtems/rsb$ git clone git://git.rtems.org/rtems-
source-builder.git fatal: destination path 'rtems-source-builder' already exists
and is not an empty directory. dhanpal@dhanpal-HP-Pavilion-15-Notebook-
PC:~/development/rtems/rsb$ cd rtems-source-builder dhanpal@dhanpal-HP-Pavilion-15-
Notebook-PC:~/development/rtems/rsb/rtems-source-builder$ cd rtems dhanpal@dhanpal-
HP-Pavilion-15-Notebook-PC:~/development/rtems/rsb/rtems-source-builder/rtems$
../source-builder/sb-set-builder -prefix=$HOME/development/rtems/4.12 4.12/rtems-sparc
RTEMS Source Builder - Set Builder, 4.12 (10d9e2dfac7) Build Set: 4.12/rtems-sparc Build Set:
4.12/rtems-autotools.bset Build Set: 4.12/rtems-autotools-internal.bset config: tools/rtems-
autoconf-2.69-1.cfg package: autoconf-2.69-x86_64-linux-gnu-1 Creating source directory:
sources download: ftp://ftp.gnu.org/gnu/autoconf/autoconf-2.69.tar.gz -> sources/autoconf-
2.69.tar.gz downloading: sources/autoconf-2.69.tar.gz - 1.8MB of 1.8MB (100%) building:
autoconf-2.69-x86_64-linux-gnu-1 config: tools/rtems-automake-1.12.6-1.cfg package:
automake-1.12.6-x86_64-linux-gnu-1 download: ftp://ftp.gnu.org/gnu/automake/automake-
1.12.6.tar.gz -> sources/automake-1.12.6.tar.gz downloading: sources/automake-
1.12.6.tar.gz - 2.0MB of 2.0MB (100%) Creating source directory: patches down-
load: https://git.rtems.org/rtems-tools/plain/tools/4.12/automake/automake-1.12.6-
bugzilla.redhat.com-1239379.diff -> patches/automake-1.12.6-bugzilla.redhat.com-
1239379.diff downloading: patches/automake-1.12.6-bugzilla.redhat.com-1239379.diff - 0.0
bytedownloading: patches/automake-1.12.6-bugzilla.redhat.com-1239379.diff - 408.0 bytes
of 408.0 bytes (100%) building: automake-1.12.6-x86_64-linux-gnu-1 cleaning: autoconf-
2.69-x86_64-linux-gnu-1 cleaning: automake-1.12.6-x86_64-linux-gnu-1 Build Set: Time
0:00:44.961728 Build Set: 4.12/rtems-autotools-base.bset config: tools/rtems-autoconf-2.69-
1.cfg package: autoconf-2.69-x86_64-linux-gnu-1 building: autoconf-2.69-x86_64-linux-gnu-1
reporting: tools/rtems-autoconf-2.69-1.cfg -> autoconf-2.69-x86_64-linux-gnu-1.txt re-
porting: tools/rtems-autoconf-2.69-1.cfg -> autoconf-2.69-x86_64-linux-gnu-1.xml config:
tools/rtems-automake-1.12.6-1.cfg package: automake-1.12.6-x86_64-linux-gnu-1 build-
ing: automake-1.12.6-x86_64-linux-gnu-1 reporting: tools/rtems-automake-1.12.6-1.cfg ->
automake-1.12.6-x86_64-linux-gnu-1.txt reporting: tools/rtems-automake-1.12.6-1.cfg ->
automake-1.12.6-x86_64-linux-gnu-1.xml installing: autoconf-2.69-x86_64-linux-gnu-1 ->
/home/dhanpal/development/rtems/4.12 installing: automake-1.12.6-x86_64-linux-gnu-1 ->
/home/dhanpal/development/rtems/4.12 cleaning: autoconf-2.69-x86_64-linux-gnu-1 clean-
ing: automake-1.12.6-x86_64-linux-gnu-1 Build Set: Time 0:00:15.092702 Build Set: Time
0:01:00.058748 config: devel/expat-2.1.0-1.cfg package: expat-2.1.0-x86_64-linux-gnu-1
download: http://downloads.sourceforge.net/project/expat/expat/2.1.0/expat-2.1.0.tar.gz ->
sources/expat-2.1.0.tar.gz redirect: https://nchc.dl.sourceforge.net/project/expat/expat/2.1.0/expat-
2.1.0.tar.gz downloading: sources/expat-2.1.0.tar.gz - 549.4kB of 549.4kB (100%) building:
expat-2.1.0-x86_64-linux-gnu-1 reporting: devel/expat-2.1.0-1.cfg -> expat-2.1.0-x86_64-
linux-gnu-1.txt reporting: devel/expat-2.1.0-1.cfg -> expat-2.1.0-x86_64-linux-gnu-1.xml
config: tools/rtems-binutils-2.27-1.cfg package: sparc-rtems4.12-binutils-2.27-x86_64-linux-
gnu-1 download: ftp://ftp.gnu.org/gnu/binutils/binutils-2.27.tar.bz2 -> sources/binutils-
2.27.tar.bz2 downloading: sources/binutils-2.27.tar.bz2 - 24.9MB of 24.9MB (100%)
download: https://git.rtems.org/rtems-tools/plain/tools/4.12/binutils/binutils-2.26-gas-
reloc.patch -> patches/binutils-2.26-gas-reloc.patch downloading: patches/binutils-2.26-
gas-reloc.patch - 0.0 bytes of 510.0 bytes (0downloading: patches/binutils-2.26-gas-
reloc.patch - 510.0 bytes of 510.0 bytes (100%) building: sparc-rtems4.12-binutils-
2.27-x86_64-linux-gnu-1 reporting: tools/rtems-binutils-2.27-1.cfg -> sparc-rtems4.12-
binutils-2.27-x86_64-linux-gnu-1.txt reporting: tools/rtems-binutils-2.27-1.cfg -> sparc-
rtems4.12-binutils-2.27-x86_64-linux-gnu-1.xml config: tools/rtems-gcc-6.3.0-newlib-
2.5.0.20170228-1.cfg package: sparc-rtems4.12-gcc-6.3.0-newlib-2.5.0.20170228-x86_64-
linux-gnu-1 download: ftp://ftp.gnu.org/gnu/gcc/gcc-6.3.0/gcc-6.3.0.tar.bz2 -> sources/gcc-

```

6.3.0.tar.bz2 downloading: sources/gcc-6.3.0.tar.bz2 - 95.3MB of 95.3MB (100%) download: ftp://sourceware.org/pub/newlib/newlib-2.5.0.20170228.tar.gz -> sources/newlib-2.5.0.20170228.tar.gz downloading: sources/newlib-2.5.0.20170228.tar.gz - 17.1MB of 17.1MB (100%) download: http://www.mpfr.org/mpfr-2.4.2/mpfr-2.4.2.tar.bz2 -> sources/mpfr-2.4.2.tar.bz2 downloading: sources/mpfr-2.4.2.tar.bz2 - 1.0MB of 1.0MB (100%) download: http://www.multiprecision.org/mpc/download/mpc-0.8.1.tar.gz -> sources/mpc-0.8.1.tar.gz downloading: sources/mpc-0.8.1.tar.gz - 532.2kB of 532.2kB (100%) download: ftp://ftp.gnu.org/gnu/gmp/gmp-4.3.2.tar.bz2 -> sources/gmp-4.3.2.tar.bz2 downloading: sources/gmp-4.3.2.tar.bz2 - 1.8MB of 1.8MB (100%) building: sparc-rtems4.12-gcc-6.3.0-newlib-2.5.0.20170228-x86\_64-linux-gnu-1

**Author:** Joel Sherrill 2017-03-17T13:03:41.000Z

Original author: hunk3749

Depending on the speed of the computer, building tools for an architecture can easily take an hour. You should run top in another windows land see how active your computer is. There is also a detailed log file you can tail. But I don't remember the details of that offhand.

**Author:** Gedare Bloom 2017-03-17T19:33:57.000Z

Original author: hunk3749

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

Yeah this looks perfectly normal so far. Let it continue going.

I'm closing this. OP can re-open and post an rsb-error / log file if there is a problem.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: hunk3749

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: hunk3749

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.738 2930 - Coverity Reports Out of Bounds Read in drvmgr\_print.c

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2930                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-03-14T21:31:10.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2930">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2930</a> |
| <b>Merges</b>      | 0                                                                                                                             |

<https://scan5.coverity.com/reports.htm#v29808/p10069/fileInstanceId=109359850&defectInstanceId=30967449&mergedDefectId=1399730>

354 printf(" DRIVER ID: 0x%llx\n", drv->drv\_id); 1. Condition drv->name, taking true branch. 355 printf(" NAME: %sn", drv->name ? drv->name : "NO\_NAME"); 356 printf(" BUS TYPE: %dn", drv->bus\_type); 357 printf(" OPERATIONS:n"); 2. alias: Assigning: ppfunc = &drv->ops->init[0]. ppfunc now points to element 0 of drv->ops->init (which consists of 4 4-byte elements). 3. Condition i < 6U /\* sizeof (struct drvmgr\_drv\_ops) / sizeof (void (\*)(void)) /, taking true branch. 5. Condition i < 6U / sizeof (struct drvmgr\_drv\_ops) / sizeof (void (\*)(void)) \*/, taking true branch. 6. cond\_at\_most: Checking i < 6U implies that i may be up to 5 on the true branch. 358 for (i = 0, ppfunc = (fun\_ptr \*)&drv->ops->init[0]; 359 i < DRV\_MGR\_OPS\_NUM(struct drvmgr\_drv\_ops); i++) 4. Jumping back to the beginning of the loop.

CID 1399730 (#1 of 1): Out-of-bounds read (OVERRUN) 7. overrun-local: Overrunning array of 4 4-byte elements at element index 5 (byte offset 20) by dereferencing pointer ppfunc + i. 360 printf(" %s %pn", drv\_ops\_names[i], ppfunc[i]); 361 printf(" NO. DEVICES: %dn", drv->dev\_cnt); 362

**Author:** Joel Sherrill 2017-03-15T16:03:24.000Z

- **Owner** set to daniel
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-08-29T07:09:36.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"3663be53521e29981f3617ef99c7f8e3cec7036d/rtems" 3663be53/rtems]:

```
1 drvMgr: clean up info_drv print
2
3 Fixes #2930
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.739 2924 - Warnings in SPARC BSPs

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2924                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-03-10T19:31:17.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:sparc, bsp, priority::normal, resolution::fixed, tickettype::defect, version::5                                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2924">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2924</a> |
| <b>Merges</b>      | 0                                                                                                                             |

As of today, the following warnings exist for SPARC BSPs.

```
log/sparc-leon2.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/console/debugputs.c:43:5:
warning: this 'while' clause does not guard... [-Wmisleading-indentation] log/sparc-
leon2.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../../../sparc/shared/amba/ahbstat.c:156:3:
warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-
leon2.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../../../sparc/shared/amba/ahbstat.c:156:3:
warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-
leon2.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../../../sparc/shared/drvMgr/ambapp_bus.c:64:
warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-
leon2.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../../../sparc/shared/drvMgr/ambapp_bus.c:64:
warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-
leon2.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../../../sparc/shared/drvMgr/leon2_amba_bus.
warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-
leon2.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../../../sparc/shared/drvMgr/leon2_amba_bus.
warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-
leon2.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../../../sparc/shared/irq/genirq.c:244:3:
warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-
leon2.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../../../sparc/shared/irq/genirq.c:244:3:
warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-
leon2.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../../../sparc/shared/spw/grspw_router.c:213:4
warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-
leon2.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../../../sparc/shared/spw/grspw_router.c:213:4
```

```

warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-
leon2.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon2/../../../../sparc/shared/uart/apbuart.c:574:21:
warning: format '%x' expects argument of type 'unsigned int', but argument 2
has type 'apbuart_priv * {aka struct <anonymous> *}' [-Wformat=] log/sparc-
leon3.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/amba/ahbstat.c:156:3:
warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-
leon3.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/amba/ahbstat.c:156:3:
warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-
ngmp.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/amba/ahbstat.c:156:3:
warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-
ngmp.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/amba/ahbstat.c:156:3:
warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-
leon3.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/drvmgr/ambapp_bus.c:64:
warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-
leon3.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/drvmgr/ambapp_bus.c:64:
warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-
ngmp.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/drvmgr/ambapp_bus.c:64:
warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-
ngmp.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/drvmgr/ambapp_bus.c:64:
warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-
leon3.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/irq/genirq.c:244:3:
warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-
leon3.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/irq/genirq.c:244:3:
warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-
ngmp.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/irq/genirq.c:244:3:
warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-
ngmp.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/irq/genirq.c:244:3:
warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-
leon3.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/spw/grspw_router.c:213:4:
warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-
leon3.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/spw/grspw_router.c:213:4:
warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-
ngmp.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/spw/grspw_router.c:213:4:
warning: implicit declaration of function 'printk' [-Wimplicit-function-declaration] log/sparc-
ngmp.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/spw/grspw_router.c:213:4:
warning: nested extern declaration of 'printk' [-Wnested-externs] log/sparc-
leon3.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/uart/apbuart.c:574:21:
warning: format '%x' expects argument of type 'unsigned int', but argument 2
has type 'apbuart_priv * {aka struct <anonymous> *}' [-Wformat=] log/sparc-
ngmp.log:../../../../../../../../rtems/c/src/lib/libbsp/sparc/leon3/../../../../sparc/shared/uart/apbuart.c:574:21:
warning: format '%x' expects argument of type 'unsigned int', but argument 2 has type 'ap-
buart_priv * {aka struct <anonymous> *}' [-Wformat=]

```

|                                                       |
|-------------------------------------------------------|
| <b>Author:</b> Joel Sherrill 2017-03-10T19:31:29.000Z |
|-------------------------------------------------------|

- **Owner** set to daniel
- **Status** changed from *new* to *assigned*

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-05-11T07:31:02.000Z |
|------------------------------------------------------|

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Joel Sherrill 2017-10-12T17:29:59.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

These no longer occur. Closing.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.740 2923 - Questionable Code in resource\_snapshot.c

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2923                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-03-10T18:13:20.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::wontfix, rtems::score, tickettype::defect, version::5                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2923">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2923</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Coverity URL:

<https://scan5.coverity.com/reports.htm#v29808/p10069/fileInstanceId=108958257&defectInstanceId=30877219&mergedDefectId=1399703>

Coverity Scan doesn’t like taking the address of a single `uint32_t` and then treating it as an array pointer. I think the code is likely doing what is intended but there is an implicit linkable between the order of the fields in the structure here and the class numbers used in the object IDs. Is there a way to improve this code and reduce the linkage?

```
141 1. address_of: Taking address with &snapshot->active_posix_keys yields a singleton pointer.
2. assign: Assigning: active = &snapshot->active_posix_keys.
142 active = &snapshot->active_posix_keys;
143 3. Condition i < 19U /* sizeof (objects_info_table) / sizeof (objects_info_table[0]) */, taking true branch.
144 for (i = 0; i < RTEMS_ARRAY_SIZE(objects_info_table); ++i) {
145 const Objects_Information *information;
146 147 information = _Objects_Get_information(
148 objects_info_table[i].api,
149 objects_info_table[i].cls
150 );
151 4. Condition information != NULL, taking true branch.
152 if (information != NULL) {
```

CID 1399703 (#1 of 1): Out-of-bounds access (ARRAY\_VS\_SINGLETON) 5. ptr\_arith: Using active as an array. This might corrupt or misinterpret adjacent memory locations. 153 active[i] = \_Objects\_Active\_count(information);



---

**Author:** Joel Sherrill 2017-03-10T18:13:45.000Z

---

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

---

**Author:** Trac Migrate 2017-03-13T06:00:40.000Z

---

Yes, the code is ugly, but it works quite well.

---

**Author:** Gedare Bloom 2017-03-13T15:08:59.000Z

---

Very ugly. The hack might be a bit more clear if we use

```

1 typedef struct {
2   Heap_Information_block workspace_info;
3   Heap_Information_block heap_info;
4   uint32_t active_posix_key_value_pairs;
5   union {
6     uint32_t anonymous[ 1 + ( sizeof(rtems_resource_rtems_api) +
7     ↪ sizeof(rtems_resource_posix_api) ) / sizeof(uint32_t) ];
8   }
9   struct {
10    uint32_t active_posix_keys;
11    rtems_resource_rtems_api rtems_api;
12    rtems_resource_posix_api posix_api;
13  }
14  int open_files;
15 } rtems_resource_snapshot;

```

---

**Author:** Trac Migrate 2017-03-14T06:28:40.000Z

---

Replying to [Gedare](#):

Very ugly. The hack might be a bit more clear if we use {{{ typedef struct { Heap\_Information\_block workspace\_info; Heap\_Information\_block heap\_info; uint32\_t active\_posix\_key\_value\_pairs; union { uint32\_t anonymous[ 1 + ( sizeof(rtems\_resource\_rtems\_api) + sizeof(rtems\_resource\_posix\_api) ) / sizeof(uint32\_t) ]; struct { uint32\_t active\_posix\_keys; rtems\_resource\_rtems\_api rtems\_api; rtems\_resource\_posix\_api posix\_api; } } int open\_files; } rtems\_resource\_snapshot; }}}}

The rtems\_resource\_snapshot structure is supposed to be easy to understand for the user and should not make implementation details visible. With the union you still assume a certain mapping of array elements and normal structure members. It is an out-of-bounds access, so Coverity is right, but it is intentional. I don't think this should be changed.



---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-05-11T07:43:47.000Z

---

- **Resolution** set to ~"wontfix"
- **Status** changed from *assigned* to *closed*

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.741 2917 - termios: Make write POSIX compatible

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2917                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-02-28T07:57:14.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect                                                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2917">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2917</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Currently only blocking read/write operations are implemented. A blocking write must transfer at least one character. It should not wait for the device for the second character and so on.

---

**Author:** Trac Migrate 2017-02-28T07:57:19.000Z

---

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

---

**Author:** Trac Migrate 2017-02-28T09:03:33.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

[a165a9607abd4263fa1a572bb227bd9fb537053b/rtems]

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.742 2916 - termios: Change receive callback invocation to enable select() and poll() support

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2916                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-02-28T07:55:02.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect                                                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2916">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2916</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Call the receive callback in case a read will succeed without to block. This enables the use of the receive callback for a poll() and select() support. Increase raw input buffer size to allow buffering of one line.

**Author:** Trac Migrate 2017-02-28T07:55:08.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-02-28T09:03:08.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"

- **Status** changed from *assigned* to *closed*

[9fa0f543ecfcf6cdf79d60a3a9f5a0ed845c7046/rtems]

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2017-05-11T07:31:02.000Z |
|-----------------------------|--------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2017-11-09T06:27:14.000Z |
|-----------------------------|--------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.743 2912 - libdebugger: control reaches end of non-void function

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2912                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-02-15T10:15:53.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2912">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2912</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

```
../../../../../../../../rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-server.c:393:1:
warning:      control reaches end of non-void function [-Wreturn-type]
../../../../../../../../rtems/c/src/../../../../cpukit/libdebugger/rtems-debugger-server.c:405:1:   warn-
ing: control reaches end of non-void function [-Wreturn-type]
```

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2017-05-11T07:31:02.000Z |
|-----------------------------|--------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

|                            |                          |
|----------------------------|--------------------------|
| <b>Author:</b> Chris Johns | 2017-07-16T23:31:04.000Z |
|----------------------------|--------------------------|

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

This looks fixed to me on master.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-09T06:27:14.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.744 2909 - xz: Support for 64-bit CRC is build although XZ\_USE\_CRC64 is not defined

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2909                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-02-14T07:52:24.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2909">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2909</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

This leads to:

```
../../../../../../../../rtems/c/src/../../../../cpukit/libmisc/xz/xz_crc64.c:21:16: warning: no previous prototype for 'xz_crc64_init' [-Wmissing-prototypes]
../../../../../../../../rtems/c/src/../../../../cpukit/libmisc/xz/xz_crc64.c:40:20: warning: no previous prototype for 'xz_crc64' [-Wmissing-prototypes]
```

We should enable the 64-bit CRC or remove this file from the build.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-04-07T20:24:01.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"c475924d6d2ea7d5cba160a8a28e88642d6b46d8/rtems" c475924d/rtems]:

```

1 xz_config.h: Define XZ_USE_CRC64
2
3 close #2909.

```

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-06-13T09:45:57.000Z

---

Original author: sebastian.huber

In [changeset:"c7377381f4b3d02f88a4b2bd568d24a3d4a7d399/rtems" c7377381/rtems]:

```

1 xz: Use CRC32
2
3 This reverts c475924d6d2ea7d5cba160a8a28e88642d6b46d8.
4
5 Update #2909.
6 Close #2994.

```

---

**Author:** Trac Migrate 2017-07-06T13:12:06.000Z

---

Original author: sebastian.huber

In [changeset:"71943dd4d2abcecbd3404f87cf9a12df46ed7bcc/rtems" 71943dd/rtems]:

```

1 xz: Suppress attribute warnings
2
3 Update #2909.

```

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.745 2906 - rtems-doc waf configure does not detect sphinxcontrib.bibtex status

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2906                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-02-09T21:16:53.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | doc, priority::highest, resolution::fixed, tickettype::defect, version::5                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2906">https://gitlab.rtems.org/rtems/rtems/-/issues/2906</a> |
| <b>Merges</b>      | 0                                                                                                                   |

The rtems-docs requires the Sphinx contribution extension for bibtex to build.

A configure check should be added to see if the extension is installed and an error raised or the documentation conditionally built.

It is not clear to me if bibtex needs Tex Alive. Requiring Tex on all hosts to build the documentation is a regression so the extension will need to be removed or a fall back position taken where degraded quality documentation in HTML is created.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Chris Johns 2017-09-04T01:30:49.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

<https://git.rtems.org/rtems-docs/commit/?id=ff9d55501f5a150d52b43513357becc04171fd61>

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.746 2897 - Update termios.h to match the latest FreeBSD definitions

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2897                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-02-01T21:27:35.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2897">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2897</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: kirspclk

The FreeBSD struct termios separates out the input and output baud rates into individual speed\_t variables. It also supports more flag options. The big benefit is that the rtems-libbsd tty code can be ported cleanly without the need to fixup the input and output baud rates. This should be a transparent change unless someone was manipulating the baud rates directly through the c\_cflags (not using the cfgetispeed, cfgetospeed, cfsetispeed, cfsetospeed functions).

- [0001-Adding-new-files-for-inclusion-of-FREEBSD-termios-fe.patch](#)
- [0001-remove-files-that-are-no-longer-needed-in-libnetwork.patch](#)
- [0002-Updating-termios-headers-to-latest-FREEBSD-verion.patch](#)
- [0002-Updating-termios-to-support-FREEBSD-struct-termios-.patch](#)
- [0003-test-suites-are-updated-to-reflect-the-changes-made-.patch](#)
- [0004-tools-was-updated-to-reflect-the-changes-made-to-ter.patch](#)
- [log\\_xilinx\\_zynq\\_a9\\_qemu.log](#)
- [log\\_xilinx\\_zynq\\_a9\\_qemu\\_net.log](#)

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-02-01T21:28:10.000Z |
|------------------------------------------------------|

Original author: kirspclk

- **Attachment** [0001-remove-files-that-are-no-longer-needed-in-libnetwork.patch](#) added

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-02-01T21:28:27.000Z |
|------------------------------------------------------|

Original author: kirspclk

- **Attachment** [0002-Updating-termios-headers-to-latest-FREEBSD-verion.patch](#) added

---

**Author:** Trac Migrate 2017-02-01T21:29:10.000Z

---

Original author: kirspek

- **Attachment** [log\\_xilinx\\_zynq\\_a9\\_qemu\\_net.log](#) added

RTEMS test log for attached patches

---

**Author:** Trac Migrate 2017-02-01T21:52:39.000Z

---

Original author: kirspek

Ignore the patches and test log. I accidently configured on the wrong tree. I'll post new patches soon.

---

**Author:** Trac Migrate 2017-02-02T23:00:00.000Z

---

Original author: kirspek

I have made the modifications to termios. There were a bunch of files to change in the BSPs to use the new baud rate fields. I think I updated all the necessary BSPs. I only tested the xilinx\_zynq\_a9\_qemu BSP. I am attaching the patch file and testsuite log.

---

**Author:** Trac Migrate 2017-02-02T23:00:55.000Z

---

Original author: kirspek

- **Attachment** [0001-Adding-new-files-for-inclusion-of-FREEBSD-termios-fe.patch](#) added

BSP updates

---

**Author:** Trac Migrate 2017-02-02T23:01:34.000Z

---

Original author: kirspek

- **Attachment** [0002-Updating-termios-to-support-FREEBSD-struct-termios-.patch](#) added

TERMIOS Updates

---

**Author:** Trac Migrate 2017-02-02T23:01:55.000Z

---

Original author: kirspek

- **Attachment** [0003-test-suites-are-updated-to-reflect-the-changes-made-.patch](#) added

Testsuite Updates



**Author:** Trac Migrate 2017-02-02T23:02:12.000Z

Original author: kirspk

- **Attachment** [0004-tools-was-updated-to-reflect-the-changes-made-to-ter.patch](#) added

Tool Updates

**Author:** Trac Migrate 2017-02-02T23:03:23.000Z

Original author: kirspk

- **Attachment** [log\\_xilinx\\_zynq\\_a9\\_qemu.log](#) added

Testsuite Log

**Author:** Trac Migrate 2017-02-15T14:20:42.000Z

Original author: kirspk

- **Milestone** changed from %"4.12" to %"Indefinite"
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-03-22T10:57:26.000Z

Original author: kirspk

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"1c6926c11f2e5efcb166c668b097d64a0321d66e/rtems" 1c6926c1/rtems]:

```

1  termios: Synchronize with latest FreeBSD headers
2
3  Adding modified FreeBSD headers to synchronize RTEMS termios with
4  FreeBSD. Modify termios to support dedicated input and output baud for
5  termios structure. Updated BSPs to use dedicated input and output baud
6  in termios structure. Updated tools to use dedicated input and output
7  baud in termios structure. Updated termios test suites to use dedicated
8  input and output baud in termios structure.
9
10 Close #2897.
```

**Author:** Trac Migrate 2017-03-22T10:59:48.000Z

Original author: kirspelk

- **Milestone** changed from %”Indefinite” to %”4.12”

**Author:** Trac Migrate 2017-03-27T08:31:35.000Z

Original author: kirspelk

In [changeset:”94a4865c0c4257196827ef426150026980d4a10b/rtems”  
94a4865/rtems]:

```
1 termios: Avoid invalid memory access
2
3 Update #2897.
```

**Author:** Trac Migrate 2017-03-27T13:39:05.000Z

Original author: kirspelk

In [changeset:”5f382713904a1eff309457311d29b4b84798e83b/rtems”  
5f382713/rtems]:

```
1 cpukit: Fix Makefile.am and update preinstall.am
2
3 Update #2897.
```

**Author:** Trac Migrate 2017-04-03T12:08:49.000Z

Original author: kirspelk

In [changeset:”1301468b5a6e1080ba94ab4ca763c7e8e5c223e4/rtems”  
1301468/rtems]:

```
1 bsp: Fix baud settings
2
3 Update #2897.
```

**Author:** Trac Migrate 2017-04-10T14:40:08.000Z

Original author: kirspelk

In [changeset:”d2390ce47beb619ef8e86a57c832b501b7acb5c5/rtems”  
d2390ce4/rtems]:

```
1 Updating default termios initialization for dedicated input/output baud_
  ↪ rates
2
3 updates #2897.
```

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: kirspelk

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: kirspelk

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.747 2896 - RSB requirements are missing pax

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2896                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2017-02-01T16:46:49.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::wontfix, tickettype::defect, tool::rtems-source-builder, version::4.11                |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2896">https://gitlab.rtems.org/rtems/rtems/-/issues/2896</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Loading a new VM, I noticed that pax is needed. It isn't mentioned in the RSB manual at all.

I can only accurately fix this for Centos 7 but we can safely assume that advice applies to Centos 6, Fedora, and RHEL.

Can users of other distributions check about pax. Please

---

**Author:** Joel Sherrill 2017-02-01T16:47:05.000Z

---

- **Owner** set to @chrisj

---

**Author:** Chris Johns 2017-02-01T23:43:03.000Z

---

The RSB needs a better way to manage this type of problem as well as packages.

It a reasonably sized change which will have to happen. I do not think it can be avoided anymore.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Chris Johns 2017-08-14T00:16:05.000Z

---

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

I need patches to the documentation to fix this.

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.748 2895 - Prefix the confdefs.h internal defines with an underscore

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2895                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-02-01T10:45:13.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::config, ticket-type::enhancement                                                  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2895">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2895</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Prefix the confdefs.h internal defines with an underscore to simplify the review of this extremely complex header file.

---

**Author:** Chris Johns 2017-02-01T23:51:32.000Z

---

Original author: sebastian.huber

Could you please provide more detail about this change, why it helps and the user impact?

Thanks

---

**Author:** Trac Migrate 2017-02-02T05:45:24.000Z

---

Original author: sebastian.huber

It is common practice in RTEMS to prefix internal things with an underscore. The confdefs.h header file became quite complex over time. It uses a lot of internal

defines and up to now everything starts with `CONFIGURE_*`. It has no user impact. It helps to identify undocumented configuration options.

---

**Author:** Trac Migrate 2017-02-14T08:45:07.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[07d71279b46142147f73b00ea8b1731e868e484a/rtems]

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.749 2894 - Rename `CONFIGURE_SMP_MAXIMUM_PROCESSORS` to `CONFIGURE_MAXIMUM_PROCESSORS`

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2894                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-02-01T10:43:36.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | doc, priority::normal, resolution::fixed, rtems::config, smp, ticket-type::enhancement, version::4.11                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2894">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2894</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Rename `CONFIGURE_SMP_MAXIMUM_PROCESSORS` to `CONFIGURE_MAXIMUM_PROCESSORS` since the SMP part is superfluous.

---

**Author:** Trac Migrate 2017-02-14T09:21:26.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

[1d073c538527a196cc35dab9d4ff6892e70d770d/rtems-docs]

**Author:** Trac Migrate 2017-02-14T10:13:04.000Z

Original author: sebastian.huber

In changeset 54835ae9b35a595099c22e764bce86dc74d57317:

Rename `CONFIGURE_SMP_MAXIMUM_PROCESSORS` to `CONFIGURE_MAXIMUM_PROCESSORS` since the SMP part is superfluous.  
Update #2894.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.750 2893 - Remove `CONFIGURE_SMP_APPLICATION`

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2893                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-02-01T10:42:14.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::config, smp, ticket-type::enhancement, version::4.11, version::4.12     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2893">https://gitlab.rtems.org/rtems/rtems/-/issues/2893</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

SMP support must be enabled with the `CONFIGURE_SMP_APPLICATION` configuration option. Remove this option and enable the SMP support if `CONFIGURE_SMP_MAXIMUM_PROCESSORS > 1`.

---

**Author:** Trac Migrate 2017-02-01T10:45:53.000Z

---

Original author: sebastian.huber

- **Version** changed from ~"4.12" to ~"4.11"

---

**Author:** Trac Migrate 2017-02-02T08:10:05.000Z

---

Original author: sebastian.huber

In changeset f95fa38764c007459cb0bd62a67e83a442f55433:

Remove CONFIGURE\_SMP\_APPLICATION Enable the SMP support if  
CONFIGURE\_SMP\_MAXIMUM\_PROCESSORS > 1. Update [#2893](#).

---

**Author:** Trac Migrate 2017-02-03T12:30:33.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[1f3c22e7868b14482df287656e602e17ccac4adc/rtems-docs]

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.751 2890 - \_RBTREE\_Initialize\_node generates warnings

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2890                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-01-30T11:06:39.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::low, resolution::fixed, rtems::score, tickettype::defect, version::5                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2890">https://gitlab.rtems.org/rtems/rtems/-/issues/2890</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: stavros.passas

Currently, when `_RBTREE_Initialize_node` is used, it generates warnings of unused variables. I traced the issue down to the variable being used only if `RTEMS_DEBUG` is set.

Thus, the argument should be marked as `RTEMS_UNUSED`, if `RTEMS_DEBUG` is not set.

- [2890-Avoid-warnings-on-\\_RBTREE\\_Initialize\\_node.patch](#)

**Author:** Trac Migrate 2017-01-30T11:07:39.000Z

Original author: stavros.passas

- **Attachment** [2890-Avoid-warnings-on-\\_RBTREE\\_Initialize\\_node.patch](#) added

Fix

**Author:** Trac Migrate 2017-01-30T11:08:39.000Z

Original author: stavros.passas

Suggested fix attached.

**Author:** Trac Migrate 2017-01-30T11:30:42.000Z

Original author: stavros.passas

- **Owner** set to Sebastian Huber <[sebastian.huber@embedded-brains.de](mailto:sebastian.huber@embedded-brains.de)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset c5430e0618fbe1517417a0b353c12924a8934554:

score: Fix unused parameter warning Close [#2890](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z



Original author: stavros.passas

- **Milestone** changed from %"4.12" to %"4.12.0"

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2017-11-09T06:27:14.000Z |
|-----------------------------|--------------------------|

Original author: stavros.passas

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.752 2889 - RTEMS\_STACK\_CHECKER\_EXTENSION has incomplete definition

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2889                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-01-30T10:40:08.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::low, resolution::fixed, rtems::score, tickettype::defect, version::5                                                |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2889">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2889</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: stavros.passas

The extension for the stack checker defines 8 entries, while the structure for RTEMS extensions gets 9 arguments. This causes warnings to appear on applications compiled with -Werror, or similar flags.

The handler that is missing is for the terminate callback, so a 0 entry would be enough to fix this error.

- [2889-Complete-STACK\\_CHECKER\\_EXTENSION.patch](#)

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2017-01-30T10:41:26.000Z |
|-----------------------------|--------------------------|

Original author: stavros.passas

- **Attachment** [2889-Complete-STACK\\_CHECKER\\_EXTENSION.patch](#) added

Fix

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2017-01-30T10:41:53.000Z |
|-----------------------------|--------------------------|

Original author: stavros.passas

Fix attached.

**Author:** Trac Migrate 2017-01-30T10:51:12.000Z

Original author: stavros.passas

- **Owner** set to Stavros Passas <[stavros.passas@movidius.com](mailto:stavros.passas@movidius.com)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 575c2e21e25db83a5a8d83d2f4062e0f39f18c46:

Complete STACK\_CHECKER\_EXTENSION. Fixes [#2889](#)

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: stavros.passas

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: stavros.passas

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.753 2885 - Fix rtems\_rate\_monotonic\_postponed\_job\_count() prototype

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2885                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-01-24T14:01:10.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2885">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2885</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

`rtems_rate_monotonic_postponed_job_count()` should return an RTEMS status code. It should be renamed to `rtems_rate_monotonic_get_postponed_job_count()` or `rtems_rate_monotonic_get_postponed_jobs()` (similar to `rtems_rate_monotonic_get_statistics()`).

**Author:** Trac Migrate 2017-01-24T14:13:27.000Z

Original author: sebastian.huber

There is no test case for this function.

---

**Author:** Trac Migrate 2017-01-24T15:44:34.000Z

---

Original author: sebastian.huber

I think we should rename it as `rtems_rate_monotonic_get_postponed_job_count(uint32_t *count)`, though the name is really long. The RTEMS status codes could be: RTEMS\_SUCCESSFUL - count returned successfully RTEMS\_INVALID\_ID - invalid rate monotonic period id RTEMS\_INVALID\_ADDRESS - invalid address of count

---

**Author:** Trac Migrate 2017-01-25T06:28:28.000Z

---

Original author: sebastian.huber

My preferred option: just add this to `rtems_rate_monotonic_period_status` and return it via `rtems_rate_monotonic_get_status()`.

---

**Author:** Trac Migrate 2017-01-25T08:28:16.000Z

---

Original author: sebastian.huber

I can do this. I will add the count into the structure of `rtems_rate_monotonic_period_status`, remove `rtems_rate_monotonic_get_postponed_job_count()`, and extend `rtems_rate_monotonic_get_status()`.

---

**Author:** Trac Migrate 2017-01-25T13:19:19.000Z

---

Original author: sebastian.huber

Sp69 is also planned to be updated, which is the test for `rtems_rate_monotonic_get_status()`

---

**Author:** Trac Migrate 2017-01-30T06:53:30.000Z

---

Original author: sebastian.huber

In changeset 0794197f729f5ee9551dc7b2e14867f394cbc327:

rtems: Fix `_Rate_monotonic_Renew_deadline()` Prepare a precondition to prevent the potential integer overflow. Remove one redundant parameter in `_Rate_monotonic_Renew_deadline()`. `sptests/sprmsched02`: Create A test case for checking the overflow condition of postponed jobs in `rtems_rate_monotonic_period_status`. Update [#2885](#).

---

**Author:** Trac Migrate 2017-01-30T07:06:48.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2017-05-11T07:31:02.000Z |
|-----------------------------|--------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2017-11-09T06:27:14.000Z |
|-----------------------------|--------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.754 2883 - src/c/src/lib/libbsp/arm/tms570/console/tms570-sci.c:248: strange expression ?

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2883                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-01-23T19:08:50.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::4.11                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2883">https://gitlab.rtems.org/rtems/rtems/-/issues/2883</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: dcb

src/c/src/lib/libbsp/arm/tms570/console/tms570-sci.c:248]: (style) Same expression on both sides of '|'.

Source code is

```
uint32_t flr_tx_ready = TMS570_SCI_FLR_TX_EMPTY | TMS570_SCI_FLR_TX_EMPTY;
```

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2017-01-24T06:41:28.000Z |
|-----------------------------|--------------------------|

Original author: dcb

- **Owner** set to ppisa
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: dcb

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Joel Sherrill 2017-10-12T17:38:41.000Z

Original author: dcb

Ping Paval. Any idea what this line of code should be?

**Author:** Trac Migrate 2017-10-12T23:03:14.000Z

Original author: dcb

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"f4009d8b8e0c55a582dfd76f9c49d7dcfef44fae/rtems" f4009d8/rtems]:

```

1 bsp/tms570: remove duplicate of TMS570_SCI_FLR_TX_EMPTY in console_
  ↪driver.
2
3 Initial idea has been that check for both, TMS570_SCI_FLR_TX_EMPTY
4 and TMS570_SCI_FLR_TXRDY is required before console driver parameters
5 update.
6
7 closes #2883.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: dcb

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.755 2880 - src/cpukit/libfs/src/jffs2/src/readinode.c:189: faulty logic

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2880                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-01-23T17:46:08.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::wontfix, tickettype::defect, version::4.11                                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2880">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2880</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: dcb

src/cpukit/libfs/src/jffs2/src/readinode.c:189]: (style) Condition ‘tn.fn ofs >= offset’ is always true

Source code is

```
if (tn->fn->ofs < offset) next = tn->rb.rb_right; else if (tn->fn->ofs >= offset) next = tn->rb.rb_left; else break;
```

Maybe better code

```
if (tn->fn->ofs < offset) next = tn->rb.rb_right; else if (tn->fn->ofs > offset) next = tn->rb.rb_left; else break;
```

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-01-24T06:32:03.000Z |
|------------------------------------------------------|

Original author: dcb

- **Resolution** set to ~”wontfix”
- **Status** changed from *new* to *closed*

This code block is identical to the Linux upstream.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-01-24T08:18:51.000Z |
|------------------------------------------------------|

Original author: dcb

I’ve reported this strange code to the linux developers.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-01-24T08:20:57.000Z |
|------------------------------------------------------|

Original author: dcb

The JFFS2 code should be updated to a specific Linux version in one rush.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-05-11T07:31:02.000Z |
|------------------------------------------------------|

Original author: dcb

- **Milestone** changed from %"4.12" to %"4.12.0"

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2017-11-09T06:27:14.000Z |
|-----------------------------|--------------------------|

Original author: dcb

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.756 2879 - src/cpukit/libdebugger/rtems-debugger-server.c: four problems

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2879                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-01-23T17:41:53.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | cpukit, priority::normal, resolution::fixed, rtems::score, ticket-type::defect, version::4.11, version::4.12, version::5      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2879">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2879</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: dcb

1.

```
src/cpukit/libdebugger/rtems-debugger-server.c:1306]: (style) Redundant_
↪condition: extended. '!extended || (extended && check_pid(pid))' is equivalent_
↪to '!extended || check_pid(pid)'
```

Suggest simplify.

2.

```
src/cpukit/libdebugger/rtems-debugger-server.c:1858]: (warning) Possible null_
↪pointer dereference: rtems_debugger
```

Source code is

```
1 if (r < 0) {
2 rtems_printf(printer, "error: rtems-db: remote begin: %s: %s\n",
3 rtems_debugger->remote->name, strerror(errno));
4 free(rtems_debugger);
5 rtems_debugger = NULL;
6 }
7
8 /*
```

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(continued from previous page)

```

9  * Reset at the end of the session.
10 */
11 rtems_debugger->flags = 0;

```

Suggest adding return -1 inside the if.

3.

```

1 src/cpukit/libdebugger/rtems-debugger-server.c:906]: (style) Redundant condition:
↳extended. '!extended || (extended && check_pid(pid))' is equivalent to '!
↳extended || check_pid(pid)'

```

Duplicate.

4.

```

1 src/cpukit/libdebugger/rtems-debugger-server.c:956]: (warning) Char literal
↳compared with pointer 'p'. Did you intend to dereference it?

```

Source code is

```

1 while (p != NULL && p != '\\0') {

```

Maybe better code

```

1 while (p != NULL && *p != '\\0') {

```

**Author:** Chris Johns 2017-01-23T23:05:49.000Z

Original author: dcb

- **Owner** set to @chrisj
- **Status** changed from *new* to *accepted*

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: dcb

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Chris Johns 2017-07-16T23:41:37.000Z

Original author: dcb

- **Description** changed

```

1 1.
2
3 + {{{

```

(continues on next page)



(continued from previous page)

```

4 src/cpukit/libdebugger/rtems-debugger-server.c:1306]: (style) Redundant_
  ↳ condition: extended. '!extended || (extended && check_pid(pid))' is_
  ↳ equivalent to '!extended || check_pid(pid)'
5 + }}}
6
7 Suggest simplify.
8
9 2.
10
11 + {{{
12 src/cpukit/libdebugger/rtems-debugger-server.c:1858]: (warning)_
  ↳ Possible null pointer dereference: rtems_debugger
13 + }}}
14
15 Source code is
16
17 + {{{
18 if (r < 0) {
19 rtems_printf(printer, "error: rtems-db: remote begin: %s: %s\\n",
20 rtems_debugger->remote->name, strerror(errno));
21 free(rtems_debugger);
22 rtems_debugger = NULL;
23 }
24
25 /*
26 * Reset at the end of the session.
27 */
28 rtems_debugger->flags = 0;
29 + }}}
30
31 - Suggest adding return -1 inside the if.
32 + Suggest adding `return -1` inside the `if`.
33 ?           +           +           + +
34
35
36 3.
37
38 + {{{
39 src/cpukit/libdebugger/rtems-debugger-server.c:906]: (style) Redundant_
  ↳ condition: extended. '!extended || (extended && check_pid(pid))' is_
  ↳ equivalent to '!extended || check_pid(pid)'
40 + }}}
41
42 Duplicate.
43
44 4.
45
46 + {{{
47 src/cpukit/libdebugger/rtems-debugger-server.c:956]: (warning) Char_

```

(continues on next page)

(continued from previous page)

```

48 ↪ literal compared with pointer 'p'. Did you intend to dereference it?
49 + }}}
50 Source code is
51
52 + {{{
53 while (p != NULL && p != '\\0') {
54 + }}}
55
56 Maybe better code
57
58 + {{{
59 while (p != NULL && *p != '\\0') {
60 + }}}

```

Update formatting to show the code fragments.

**Author:** Chris Johns 2017-08-07T23:34:21.000Z

Original author: dcb

- **Version** changed from ~"4.11" to ~"4.12"

**Author:** Trac Migrate 2017-08-15T01:40:37.000Z

Original author: dcb

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"b2353ed92435c3f9301b795bf20bce14f0ddb01b/rtems" b2353ed9/rtems]:

```

1 libdebugger: Fixes to debugging, ARM support, locking, and gcc-7.1
2 ↪ warnings.
3
4 - Add `printk` support to aid multi-core debugging.
5 - Add lock trace to aid lock debugging.
6 - Fixes to gcc-7.1 warnings.
7 - Fixes from ticket #2879.
8 - Add verbose command controls.
9 - Change using the RTEMS sys/lock.h API to manage exception threads.
10 - ARM hardware breakpoint fixes. Support for SMP stepping
11 is not implemented, this requires use of the context id
12 register.
13 Closes #2879.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: dcb

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.757 2878 - src/c/src/lib/libbsp/sparc/shared/can/occan.c:1573: broken error checking ?

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2878                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-01-20T14:14:06.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:sparc, priority::normal, resolution::fixed, tickettype::defect, version::4.11                                  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2878">https://gitlab.rtems.org/rtems/rtems/-/issues/2878</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: dcb

src/c/src/lib/libbsp/sparc/shared/can/occan.c:1573]: (style) Checking if unsigned variable ‘speed=pelican\_speed\_auto(can)’ is less than zero.

Source code is

```
if ( (speed=pelican_speed_auto(can)) < 0 ){ /* failed */ return RTEMS_IO_ERROR; }
```

but

```
unsigned int speed;
```

and

```
static int pelican_speed_auto(occan_priv *priv);
```

I am not sure which C compiler gets using in rtems, but I do know that gcc compiler flag -Wtype-limits will flag this kind of problem.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-01-20T14:14:52.000Z |
|------------------------------------------------------|

Original author: dcb

- **Owner** set to daniel
- **Status** changed from *new* to *assigned*

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-05-11T07:31:02.000Z |
|------------------------------------------------------|

Original author: dcb

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-08-22T08:35:33.000Z

Original author: dcb

Hi, This might not generated a warning because it is part of dead code that will never be reached due to the return statement just above. I have made a patch to remove this dead code, it will close this ticket.

**Author:** Trac Migrate 2017-08-30T10:40:05.000Z

Original author: dcb

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Fixed by 3471d3da25de4e706f4cdb09d93a4de4e54455df

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: dcb

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.758 2877 - DHCP client fails on complex networks

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2877                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-01-20T09:21:28.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | cpukit, priority::normal, resolution::fixed, rtems::score, ticket-type::defect, version::5                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2877">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2877</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: stavros.passas

What happens is that on networks with more than one DHCP servers, or on networks that use multiple vlans it can happen that After a DHCP discover our client broadcasts, it receives multiple offers, which is perfectly fine based on the DHCP RFC.

However our implementation of a DHCP client, expects a linear execution flow: 1. Broadcast a DHCP discover; 2. Wait for a DHCP offer; 3. Transmit a DHCP request; 4. Wait for a DHCP ack;

However the network stack is not cleaned between the reception of a DHCP offer and a DHCP ack, so if multiple offers are received, just the first one will be processed during the "Receive

DHCP offer” phase, and the next one will be received when we expect a “DHCP ack”, which makes our implementation assume the DHCP handshake is invalid and fail. Thus we restart the network and retry the whole process from the beginning which will cause the same issue again.

This issue that is present from when I remember in RTEMS, definitely from 4.10 up to now.

- [fix-2877.patch](#)

---

**Author:** Trac Migrate 2017-01-20T09:25:37.000Z

---

Original author: stavros.passas

The DHCP client used by libbsd is probably not affected by this problem.

---

**Author:** Trac Migrate 2017-01-20T09:27:16.000Z

---

Original author: stavros.passas

Correct, this affects just cpukit/libnetworking/rtems/rtems\_dhcp.c

---

**Author:** Trac Migrate 2017-01-20T09:33:28.000Z

---

Original author: stavros.passas

- **Attachment** [fix-2877.patch](#) added

---

**Author:** Trac Migrate 2017-01-20T09:33:55.000Z

---

Original author: stavros.passas

I attach a file with a proposed fix for this DHCP client. mainly what the fix does is extend bootp\_call to be able to expect a specific message as response. If it receives any other message, it will just ignore it, and it will timeout as it is expected to do in the first place.

Then with the extended bootp\_call, I extended the dhcp client implementation to strictly expect a dhcp offer after a discover message and a DHCP ack after a request message. This way, the DHCP protocol does not fail if there are multiple DHCP messages on the network and it will finish successfully a DHCP handshake even when multiple messages are received from our client.

---

**Author:** Trac Migrate 2017-01-20T14:07:39.000Z

---

Original author: stavros.passas

- **Owner** set to [joel.sherrill@oarcorp.com](mailto:joel.sherrill@oarcorp.com)

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: stavros.passas

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-06-08T08:07:18.000Z

Original author: stavros.passas

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In [changeset:”258534718910c903451f1fe2e8fe1197c224c8e7/rtems”  
2585347/rtems]:

```
1 network: Fix DHCP client protocol
2
3 Close #2877.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: stavros.passas

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.759 2874 - src/c/src/lib/libbsp/powerpc/beatnik/marvell/gt\_timer.c: 4 \* pointless check  
?

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2874                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2017-01-19T20:52:11.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:powerpc, priority::lowest, resolution::fixed, ticket-type::enhancement, version::4.11                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2874">https://gitlab.rtems.org/rtems/rtems/-/issues/2874</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: dcb

```
[src/c/src/lib/libbsp/powerpc/beatnik/marvell/gt_timer.c:102]: (style)
Checking if unsigned variable 'timer' is less than zero.
[src/c/src/lib/libbsp/powerpc/beatnik/marvell/gt_timer.c:109]: (style)
Checking if unsigned variable 'timer' is less than zero.
[src/c/src/lib/libbsp/powerpc/beatnik/marvell/gt_timer.c:117]: (style)
Checking if unsigned variable 'timer' is less than zero.
[src/c/src/lib/libbsp/powerpc/beatnik/marvell/gt_timer.c:128]: (style) Checking if unsigned
variable 'timer' is less than zero.
```

Parameter “timer” is only ever type `uint32_t`, so any check `< 0` seem pointless.

---

**Author:** Trac Migrate 2017-01-20T13:23:31.000Z

---

Original author: dcb

- **Owner** set to Sebastian Huber <[sebastian.huber@embedded-brains.de](mailto:sebastian.huber@embedded-brains.de)>
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In changeset e8606d5b90048b9a5feba09430ac356c422eee7d:

bsp/beatnik: Remove superfluous check Close [#2874](#).

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: dcb

- **Milestone** changed from %”4.12” to %”4.12.0”

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: dcb

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.760 2873 - src/c/src/lib/libbsp/arm/raspberrypi/i2c/i2c.c:320: defective error checking ?

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2873                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-01-19T19:59:10.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::4.11                                              |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2873">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2873</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: dcb

src/c/src/lib/libbsp/arm/raspberrypi/i2c/i2c.c:320]: (style) Checking if unsigned variable ‘rv’ is less than zero.

Source code is

```
rv = rpi_i2c_setup_transfer(bus);  
if ( rv < 0 ) {  
    but  
    uint32_t rv = 0;  
    and  
    static int rpi_i2c_setup_transfer(rpi_i2c_bus *bus)
```

Suggest put return value into an int local variable, then sanity check it, then assign it to rv.

---

**Author:** Trac Migrate 2017-01-19T20:35:03.000Z

---

Original author: dcb

- **Owner** set to Gedare Bloom <[gedare@rtems.org](mailto:gedare@rtems.org)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 70e8abf3917c93ab085ca77fee379df9fa000183:

raspberrypi: use signed int for return variable Closes [#2873](#).

---

**Author:** Joel Sherrill 2017-02-05T02:07:37.000Z

---

Original author: dcb

This ticket is closed but I would like to know what you are running to spot these issues and what settings.

I would like to make sure that eventually we are running the same thing as a project. I would have emailed directly but couldn't find your email.

Thanks.

—joel

---

**Author:** Trac Migrate 2017-02-05T09:06:38.000Z

---

Original author: dcb

I would like to know what you are running to spot these issues and what settings.

I run a static C / C++ analyser called cppcheck, available from sourceforge.

<http://cppcheck.sourceforge.net/>

The latest released version would probably work ok, but I use the current development version. I use flag `-enable=all` and I've tweaked the source of cppcheck as well.



BTW, if I could figure out how to build rtems on Linux, then I could run the latest development versions of clang and gcc over rtems and possibly get some interesting warnings.

I would like to make sure that eventually we are running the same thing as a project.

I have been doing this myself for about a year or so. I'd be more than happy to help and share my results.

I would have emailed directly but couldn't find your email.

dcb 314 at hotmail dot com. Feel free to chat offline.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: dcb

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: dcb

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.761 2868 - src/c/src/lib/libbsp/arm/smdk2410/smc/smc.c: 3 \* pointless local variables ?

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2868                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-01-16T17:01:57.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:arm, priority::lowest, resolution::fixed, tickettype::enhancement, version::4.11                                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2868">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2868</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: dcb

[src/c/src/lib/libbsp/arm/smdk2410/smc/smc.c:235]: (style) Variable 'cnt1' is modified but its new value is never used. [src/c/src/lib/libbsp/arm/smdk2410/smc/smc.c:243]: (style) Variable 'cnt2' is modified but its new value is never used. [src/c/src/lib/libbsp/arm/smdk2410/smc/smc.c:246]: (style) Variable 'cnt3' is modified but its new value is never used.

```
$ egrep "cnt1|cnt2|cnt3" src/c/src/lib/libbsp/arm/smdk2410/smc/smc.c uint32_t pblock, i, j,
lblock, zone, count, cnt1, cnt2, cnt3; cnt1 = 0; cnt2 = 0; cnt3 = 0; cnt1++; cnt2++; cnt3++;
$
```

Maybe someone left some debug code in ?

---

**Author:** Trac Migrate 2017-01-19T18:00:50.000Z

---

Original author: dcb

- **Owner** set to Gedare Bloom <[gedare@rtems.org](mailto:gedare@rtems.org)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 3f09d6354899f032958cbc44e49c7ee99175df27:

smdk2410: delete unused variables Closes [#2868](#).

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: dcb

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: dcb

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.762 2867 - Fix exclude rule in rtems-test-check

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2867                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2017-01-16T15:37:30.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::low, resolution::fixed, tickettype::defect, tool, version::5                                                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2867">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2867</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: stavros.passas

rtems-test-check is responsible of checking the testsuite configuration of a given BSP and adapt it based on a given "command". Currently for the "exclude" command, we never exclude anything, the output of the script is always the whole list of the input tests.

This happens because the script always starts with `output = $tests` and appends on the list the tests that are not excluded, so the output is always all the tests.

- [fix-2867.patch](#)

---

**Author:** Trac Migrate 2017-01-16T15:44:43.000Z

---

Original author: stavros.passas

- **Attachment** [fix-2867.patch](#) added

proposed fix

---

**Author:** Trac Migrate 2017-01-16T15:48:37.000Z

---

Original author: stavros.passas

I attached a simple fix that would solve the described issue. The issue is created because we want to provide a full list of tests in case the exclude file from the BSP is non-existing, thus a simple fix would be to start with an empty list if the BSP file exists, or with a full list there is nothing to exclude.

---

**Author:** Joel Sherrill 2017-01-16T17:08:47.000Z

---

Original author: stavros.passas

Thanks. I had reported that a LOT of BSPs failed to complete building all tests but hadn't tracked it down completely. I am testing this patch. Does it look OK?

```
index e02f8e9..218d1f0 100755 — a/tools/build/rtems-test-check + + +
b/tools/build/rtems-test-check [joel@rtbf64c rtems]$ git diff tools/ diff
-git a/tools/build/rtems-test-check b/tools/build/rtems-test-check in-
dex e02f8e9..218d1f0 100755 — a/tools/build/rtems-test-check + + +
b/tools/build/rtems-test-check @@ -32,7 +32,7 @@ done
```

```
case ${mode} in exclude) * output=${tests} + output= ;; flags) if [ $test_count !=
1 ]; then
```

---

**Author:** Trac Migrate 2017-01-16T17:21:06.000Z

---

Original author: stavros.passas

Hi Joel, no this will not work, because for the BSPs that do not have an exclude testsuite list, the output will be returned immediately as `${output}` (that will be ""), and the BSP will not compile any test!

---

**Author:** Joel Sherrill 2017-01-16T18:23:31.000Z

---

Original author: stavros.passas

Unfortunately, it looks like this script has grown complicated enough where some test cases are needed that are independent of the BSPs and testsuite.

I will try to look at it some more but am assigning this to Chris since he wrote the script.

---

**Author:** Joel Sherrill 2017-01-16T18:23:55.000Z

---

Original author: stavros.passas

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

---

**Author:** Joel Sherrill 2017-01-16T19:25:48.000Z

---

Original author: stavros.passas

I posted a patch to devel which works for gensh1 (has .tcfg file with excludes) and pc686 which doesn't have a .tcfg file. I will build all BSPs before I consider pushing this.

Feedback appreciated.

---

**Author:** Joel Sherrill 2017-01-18T00:06:34.000Z

---

Original author: stavros.passas

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

I have built all BSPs with your patch and my additions to some .tcfg files.

The only BSPs with build issues are those which are gcc < 5.0 due to using restrict and not \_\_restrict in devctl.h. This is fixed in newlib and the next newlib snapshot and tool bump will fix those.

Reopen if you think this isn't OK.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: stavros.passas

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: stavros.passas

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.763 2865 - Coverpage installed when building the docs repeats catalogue.xml entries

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2865                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2017-01-16T00:07:24.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | doc, priority::normal, resolution::fixed, tickettype::defect, version::5                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2865">https://gitlab.rtems.org/rtems/rtems/-/issues/2865</a> |
| <b>Merges</b>      | 0                                                                                                                   |

The catalogue repeats entries.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-08-11T03:46:53.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"feb68323b7eb47129ca999c0b12c8dc0eefd61fd/rtems-docs" feb6832/rtems-docs]:

```
1 coverpage: Fix repeated entries.
2
3 Closes #2865.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.764 2864 - docs.rtems.org Automatic update of branches content when a rtems-doc.git change is made.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2864                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-01-15T23:39:48.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | doc, priority::high, resolution::fixed, tickettype::defect, version::4.11, version::4.12, version::5                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2864">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2864</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Add support to automatically update the branches when a git commit happens.

**Author:** Amar Takhar 2017-01-16T06:00:41.000Z

You mean automatically build the docs when someone makes a commit to them?

A little confused by the description. :)

**Author:** Chris Johns 2017-01-16T06:23:20.000Z

- **Summary** changed from *docs.rtems.org Automatic update of branches.* to *docs.rtems.org Automatic update of branches content when a rtems-doc.git change is made.*

Replying to [amar](#):

You mean automatically build the docs when someone makes a commit to them?

Yes and publish the build on the docs.rtems.org website. The website is driven off an XML catalogue created when building the docs so document changes, additions, renames and removals are handled within the built package.

A little confused by the description. :)

Sorry, I have amended the Summary. I hope this is better.

I intend to build on sync.rtems.org when a hash on a branch changes, tar the content then transfer to docs.rtems.org. I have a script to manage the git hash checking and to build the content. A job on docs will pick up the new package and install it. All I need a way to move the package from sync to docs.

**Author:** Amar Takhar 2017-01-16T14:09:42.000Z

I have already written something like this for the new docs.rtems.org. Incremental builds (by commit) and release builds.

It needs to be managed properly, most projects overwrite their 'devel' documentation with new versions. I want to keep around every single built version for comparison this is more useful for contributors.

---

**Author:** Chris Johns 2017-01-16T22:42:15.000Z

---

Replying to amar:

I have already written something like this for the new docs.rtems.org. Incremental builds (by commit) and release builds.

Release builds are part of the release process which is a separate from this web site. The released documents are loaded on the the web site and the website's configuration updated to include the release details and the site is regenerated.

For building from git I was told to sort out building by cron so this is what I have done.

Is it possible to set up a share on the TrueNAS to be a clearing house between sync and docs?

It needs to be managed properly, most projects overwrite their 'devel' documentation with new versions.

I am concerned it places extra stress on the limit resources we have so do not see holding builds as a priority. We have the source in git so someone can get that release and build it.

I want to keep around every single built version for comparison this is more useful for contributors.

How is this more useful for contributors?

---

**Author:** Amar Takhar 2017-01-17T00:15:53.000Z

---

Replying to chrisj:

Release builds are part of the release process which is a separate from this web site. The released documents are loaded on the the web site and the website's configuration updated to include the release details and the site is regenerated.

They'll all be built from the same location using the same tools and same process the only difference is one will be a tag and the other a branch. If you are talking about what 'triggers' a build then yes they are different.

For building from git I was told to sort out building by cron so this is what I have done. Is it possible to set up a share on the TrueNAS to be a clearing house between sync and docs?

How long is this going to be setup for? I suggested this before you mentioned building after every commit. . .

It needs to be managed properly, most projects overwrite their ‘devel’ documentation with new versions.

I am concerned it places extra stress on the limit resources we have so do not see holding builds as a priority. We have the source in git so someone can get that release and build it.

Space isn’t an issue it will be a decade worth of builds before it will be a problem.

The other nice feature is if someone builds from a commit in source they’ll have the corresponding documentation available that is as close to that version as possible – I have a way to track this it’s a tool I wrote some time ago.

I want to keep around every single built version for comparison this is more useful for contributors.

How is this more useful for contributors?

Not all errors are build errors some are formatting/syntax. Lots of contributors don’t have the ability to build docs from source – I don’t think that is a pre requisit to make changes since they need to be tested before commit anyway.

Docs are unique in that regard.

---

**Author:** Joel Sherrill 2017-01-17T01:40:43.000Z

---

What is the problem with providing a way to get content from a “build jail” to a “offer to the world jail”? AFAIK all solutions include either making a directory on the TrueNAS available to the “offer to the world jail” or push via ssh. Please help Chris.

Providing this path from “build to “offer to the world” is not an unusual requirement. It is needed for multiple offerings.

There is negative value in keeping builds of documentation on every commit.

---

**Author:** Chris Johns 2017-01-17T05:14:41.000Z

---

Replying to amar:



Replying to [chrisj](#):

Release builds are part of the release process which is a separate from this web site. The released documents are loaded on the the web site and the website's configuration updated to include the release details and the site is regenerated.

They'll all be built from the same location using the same tools and same process the only difference is one will be a tag and the other a branch. If you are talking about what 'triggers' a build then yes they are different.

I am not sure if we are saying the same thing or not.

A release of RTEMS contains released documentation and the formally released procedure creates that tar file of documentation. The `rtems-release.git` repo contains the format release scripts. Released documentation must be created as part of that formal release procedure.

For building from git I was told to sort out building by cron so this is what I have done. Is it possible to set up a share on the TrueNAS to be a clearing house between sync and docs?

How long is this going to be setup for?

I am sorry I have no idea how long. I am just wanting to fill a gap that currently exists as best I can. I am after a simple, secure method to complete this task. As Joel says, if a simple solution can be found and this can be done that would be excellent. We would also be free to move on and sort other issues out, eg buildbot of the RTEMS code, new website, etc and we can come back to this when we have time, funding etc. We are working hard and openly to try to get this to happen but is hard.

I suggested this before you mentioned building after every commit...

I did not know sphinx could not be installed on `docs.rtems.org` and the docs built in that jail. I just assumed the docs could be built on each commit on `docs.rtems.org`. When I looked at the jail I saw you had installed tex alive and other packages and you had been building documentation there.

It needs to be managed properly, most projects overwrite their 'devel' documentation with new versions.

I am concerned it places extra stress on the limited resources we have so do not see holding builds as a priority. We have

the source in git so someone can get that release and build it.

Space isn't an issue it will be a decade worth of builds before it will be a problem. The other nice feature is if someone builds from a commit in source they'll have the corresponding documentation available that is as close to that version as possible – I have a way to track this it's a tool I wrote some time ago.

Sorry, I do not follow. How would someone with a local build compare and what would the value be in doing this?

I want to keep around every single built version for comparison this is more useful for contributors.

How is this more useful for contributors?

Not all errors are build errors some are formatting/syntax. Lots of contributors don't have the ability to build docs from source – I don't think that is a pre requisit to make changes since they need to be tested before commit anyway. Docs are unique in that regard.

We have been testing on a number of hosts and it builds ok. I have not built PDF on OS X as tex alive is too hard without something like brew or macports, HTML works.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Chris Johns 2017-08-13T23:40:11.000Z

---

- **Version** changed from ~"4.11" to ~"4.12"

---

**Author:** Chris Johns 2017-09-04T01:06:13.000Z

---

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Commits update master and the release branch.

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.765 2863 - Update POSIX 1003.1 Compliance Guide for ReST

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2863                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                                 |
| <b>Created</b>     | 2017-01-14T23:24:09.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | doc, priority::normal, resolution::duplicate, tickettype::enhancement, version::4.11, version::4.12, version::5               |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2863">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2863</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The POSIX 1003.1 Compliance Guide should be auto-generated from a spreadsheet into the ReST format. My vague recollection is that we used shell scripts to do this for texinfo output.

I will have to decipher what we used to do and define a new procedure.

This impacts 4.11 and newer. One issue is having correct information for what methods are present on a branch. The FACE Conformance Test Suite can be used for ~800 of the methods.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Chris Johns 2017-08-14T00:14:07.000Z

---

- **Version** changed from ~"4.11" to ~"4.12"

What is the priority on this work and will be it available for the 4.12.0 milestone?

---

**Author:** Joel Sherrill 2017-10-11T23:45:37.000Z

---

- **Resolution** set to ~"duplicate"

- **Status** changed from *new* to *closed*

This is a duplicate of [#3177](#)

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.766 2862 - docs.rtems.org Add support to ReST format releases.

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2862                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2017-01-14T21:06:00.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | doc, priority::highest, resolution::fixed, tickettype::defect, version::4.11, version::4.12, version::5             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2862">https://gitlab.rtems.org/rtems/rtems/-/issues/2862</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Add support to the releases section of the web site to handle ReST packages. The catalogues have a legacy field for texinfo docs.

The 4.11.0 and 4.11.1 releases need to have a catalogue added because this did not exist when those releases were created.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Chris Johns 2017-08-13T23:39:26.000Z

- **Version** changed from ~"4.11" to ~"4.12"

**Author:** Chris Johns 2017-09-04T03:29:05.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Fixed.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.767 2858 - Add user defined thread names

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2858                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2017-01-12T12:41:16.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2858">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2858</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Add user defined thread names to ease debugging, enhance the system diagnostics and improve compatibility to other systems, e.g. Linux and FreeBSD.

Implement `pthread_setname_np()` and `pthread_getname_np()`. Add `CONFIGURE_MAXIMUM_THREAD_NAME_SIZE` to the application configuration options. Add a application configuration dependent storage area for thread names to the thread control block.

**Author:** Joel Sherrill 2017-01-12T13:41:01.000Z

Original author: sebastian.huber

This shouldn't be hard to add since `rtems_object_[gs]et_name()` were added to do the same thing. These have been in since before 4.10. See `psx14` for an example usage of `rtems_object_set_name()` on a pthread.

**Author:** Trac Migrate 2017-01-12T14:50:47.000Z

Original author: sebastian.huber

The problem with the object set/get name is that the interpretation of the `Objects_Name` depends on `Objects_Information::is_string` which is false for Classic and true for POSIX.

**Author:** Trac Migrate 2017-01-12T14:53:20.000Z

Original author: sebastian.huber

With the new thread name support I get now

```

1  [/] # cpuse
2  -----
3  CPU USAGE BY THREAD
4  -----+-----+-----+-----+
5  ID          | NAME                                | SECONDS          |
6  PERCENT
7  -----+-----+-----+-----+
8  0x09010001 | IDLE                                | 2.389090         |
9  71.877
10 0x0a010001 | UI1                                 | 0.214980         |
11 6.464
12 0x0a010002 | BSWP                                | 0.005139         |
13 0.154
14 0x0a010003 | BRDA                                | 0.001066         |
15 0.032
16 0x0a010004 | MDIA                                | 0.000583         |
17 0.017
18 0x0a010005 | TIME                                | 0.180753         |
19 5.430
20 0x0a010006 | IRQS                                | 0.004529         |
21 0.136
22 0x0a010007 | swi1: netisr 0                      | 0.002570         |
23 0.077
24 0x0a010008 | kqueue_ctx task                    | 0.000676         |
25 0.020
26 0x0a010009 | swi5: fast task                    | 0.000059         |
27 0.001
28 0x0a01000a | thread taskq                       | 0.000058         |
29 0.001
30 0x0a01000b | swi6: task queu                    | 0.003285         |
31 0.098
32 0x0a01000c | DHCP                                | 0.274554         |
33 8.237
34 0x0a01000d | FTPa                                | 0.002210         |
35 0.066
36 0x0a01000e | FTPb                                | 0.000352         |
37 0.010
38 0x0a01000f | FTPc                                | 0.000240         |
39 0.007
40 0x0a010010 | FTPd                                | 0.000347         |
41 0.010
42 0x0a010011 | FTPD                                | 0.002903         |
43 0.087
44 0x0a010012 | TNTD                                | 0.001117         |
45 0.033
46 0x0a010013 | SHLL                                | 0.253692         |
47 7.599

```

(continues on next page)

(continued from previous page)

```

27 -----+-----+-----+-----
28 TIME SINCE LAST CPU USAGE RESET IN SECONDS: 3.
29 -----+-----+-----+-----
    ↪-----
    ↪338494
    ↪-----
  
```

Before all the libbsd threads had the name “\_BSD”.

**Author:** Joel Sherrill 2017-01-12T16:18:27.000Z

Original author: sebastian.huber

I am missing something in the code about how a Classic API task can have a string name.

What about names for threads created using the new lightweight API? And do they show up in these lists.

**Author:** Trac Migrate 2017-01-12T16:33:21.000Z

Original author: sebastian.huber

See patch:

<https://lists.rtems.org/pipermail/devel/2017-January/016680.html>

The optional string name is accessible via Thread\_Control::Join\_queue::Queue::name.

**Author:** Trac Migrate 2017-01-13T07:34:32.000Z

Original author: sebastian.huber

In changeset b8bcebea186e2d02334a014d5e792a0dde8007fc:

score: Add and use \_Objects\_Name\_to\_string() Update #2858.

**Author:** Trac Migrate 2017-01-13T07:34:42.000Z

Original author: sebastian.huber

In changeset 2b72162b81b33a9f5983feccadd8426a1ab6f950:

score: Add Thread\_queue\_Queue::name Update #2858.

**Author:** Trac Migrate 2017-01-13T07:34:52.000Z

Original author: sebastian.huber

In changeset 7ced9d9bb2fd51cfef2ce33d22e779adfed604c2:

score: Add and use `_Thread_Get_name()` Update [#2858](#).

**Author:** Trac Migrate 2017-01-13T07:35:01.000Z

Original author: sebastian.huber

In changeset da6ad56a68676d68782ddcbd443a57337c84ee06:

score: Add `_Thread_Set_name()` Add configuration option `CONFIG-  
URE_MAXIMUM_THREAD_NAME_SIZE`. Update [#2858](#).

**Author:** Trac Migrate 2017-01-13T07:35:11.000Z

Original author: sebastian.huber

In changeset 7c49927911badda7907703568cadbcb2f1b7ef9d:

posix: Add `pthread_getname_np()`, ... Add `pthread_getname_np()` and  
`pthread_setname_np()`. Update [#2858](#).

**Author:** Trac Migrate 2017-01-13T08:21:31.000Z

Original author: sebastian.huber

In changeset 172f2acb2b0ad183cb2360843e67aa86ca26a210:

Use thread name support Update [#2858](#).

**Author:** Trac Migrate 2017-01-31T09:11:16.000Z

Original author: sebastian.huber

In changeset e366f774a76d3607ad41dc0992e787ce38df980d:

score: Add `_Thread_queue_Object_name` Add the special thread  
queue name `_Thread_queue_Object_name` to mark thread queues  
embedded in an object with identifier. Using the special thread  
state `STATES_THREAD_QUEUE_WITH_IDENTIFIER` is not reliable for  
this purpose since the thread wait information and thread state  
are protected by different SMP locks in separate critical sections.  
Remove `STATES_THREAD_QUEUE_WITH_IDENTIFIER`. Add and use  
`_Thread_queue_Object_initialize()`. Update [#2858](#).

**Author:** Trac Migrate 2017-01-31T09:11:57.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[40a1e80e6391418450157eb9e69aa8b796123aaa/rtems-docs]



**Author:** Trac Migrate 2017-02-14T10:13:42.000Z

Original author: sebastian.huber

In changeset 468e9a4d99418a95657ab411d6557916d9f68bae:

monitor: Print short and long task names Print wait object identifier only if it exists. Update [#2858](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.768 2853 - Driver manual covers non-existent Non-Volatile Memory Driver

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2853                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-12-20T10:37:09.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | doc, priority::normal, resolution::fixed, tickettype::enhancement, version::4.11                                              |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2853">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2853</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Remove this chapter from the documentation.

**Author:** Trac Migrate 2016-12-23T13:45:41.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[003ee4d27dac8c3e6b7d6f8808f0a54dbb3289b8/rtems-docs]

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”4.12.0”

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.769 2851 - Driver manual covers non-existent Discrete Driver

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2851                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-12-20T08:55:36.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | doc, priority::normal, resolution::fixed, tickettype::enhancement, version::4.11                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2851">https://gitlab.rtems.org/rtems/rtems/-/issues/2851</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Remove this chapter from the documentation.

---

**Author:** Trac Migrate 2016-12-20T10:36:03.000Z

---

Original author: sebastian.huber

- **Summary** changed from *Driver manual covers non-existant Discrete Driver* to *Driver manual covers non-existent Discrete Driver*

---

**Author:** Trac Migrate 2016-12-23T13:45:07.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

[5b8d5d06c199ac2651103ed11b6f7caea44d1f68/rtems-docs]

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.770 2850 - Driver manual covers non-existent Analog Driver

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2850                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-12-20T08:54:52.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | doc, priority::normal, resolution::fixed, tickettype::enhancement, version::4.11                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2850">https://gitlab.rtems.org/rtems/rtems/-/issues/2850</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Remove this chapter from the documentation.

---

**Author:** Trac Migrate 2016-12-20T10:35:53.000Z

---

Original author: sebastian.huber

- **Summary** changed from *Driver manual covers non-existant Analog Driver* to *Driver manual covers non-existent Analog Driver*

---

**Author:** Trac Migrate 2016-12-23T13:44:46.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[4b5b49988d8eaf78ea58e1b290159632ab547c3a/rtems-docs]

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.771 2849 - ATA/IDE support in RTEMS is out-dated

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2849                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-12-20T08:52:50.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | doc, priority::normal, resolution::fixed, tickettype::enhancement, version::4.11                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2849">https://gitlab.rtems.org/rtems/rtems/-/issues/2849</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The ATA/IDE support in RTEMS is out-dated. New platforms should consider to use the SATA support provided by FreeBSD via libbsd.

Update the documentation accordingly.

---

**Author:** Trac Migrate 2016-12-23T13:46:19.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[4af69ea42a3167f39d9132a1f723810981086645/rtems-docs]

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.772 2845 - Add I2C framework documentation

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2845                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-12-20T08:47:57.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | doc, priority::normal, resolution::fixed, tickettype::enhancement, version::4.11                                              |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2845">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2845</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The new I2C framework lacks documentation.

---

**Author:** Trac Migrate 2016-12-23T13:43:39.000Z

---

Original author: sebastian.huber

[7351405fe6841705d8fab2abbd080552e5290ff8/rtems-docs]

---

**Author:** Trac Migrate 2016-12-23T13:43:55.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”4.12.0”

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.773 2844 - JFFS2: Add IO controls to get filesystem instance information and force a garbage collection

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2844                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-12-19T11:35:54.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | filesystem, priority::normal, resolution::fixed, tickettype::enhancement, version::4.11                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2844">https://gitlab.rtems.org/rtems/rtems/-/issues/2844</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Some applications need to control the garbage collection of the JFFS2 filesystem. For example during bootloader to application transitions with execute in place flashes (XIP).

**Author:** Chris Johns 2016-12-19T21:28:42.000Z

Original author: sebastian.huber

When does JFFS2 garbage collect at the moment?

Does this mean we can mount a JFFS2 disk and not start the garbage collection and defer it to later?

If so does this mean a user needs to enable garage collection at some later time or will the JFFS be configured to start garbage collection automatically?

**Author:** Trac Migrate 2016-12-20T06:29:55.000Z

Original author: sebastian.huber

Garbage collection is done on demand automatically as late as possible. Every operation can result in a garbage collection. We don't have a garbage collection thread like on Linux.

This operation gives you a bit more control when the garbage collection takes place.

**Author:** Trac Migrate 2016-12-20T07:32:35.000Z

Original author: sebastian.huber

In changeset 07c833f8f98c665e2f7d7e9adfa5f5503177dbff:

JFFS2: Add RTEMS\_JFFS2\_GET\_INFO Add IO control RTEMS\_JFFS2\_GET\_INFO to get some JFFS2 filesystem instance information. Update [#2844](#).

---

**Author:** Trac Migrate 2016-12-20T07:32:47.000Z

---

Original author: sebastian.huber

In changeset ade135d45577263fe2c7b4d885e81c1798a1a79a:

JFFS2: Add RTEMS\_JFFS2\_FORCE\_GARBAGE\_COLLECTION Add IO control to force a garbage collection. Update [#2844](#).

---

**Author:** Trac Migrate 2016-12-20T07:32:59.000Z

---

Original author: sebastian.huber

In changeset ab834d65e4a96bb59901f4349857ffe3e57a3f54:

JFFS2: RTEMS\_JFFS2\_ON\_DEMAND\_GARBAGE\_COLLECTION Update [#2844](#).

---

**Author:** Trac Migrate 2016-12-20T07:33:21.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

---

**Author:** Chris Johns 2016-12-20T07:49:54.000Z

---

Original author: sebastian.huber

Replying to [sebastian.huber](#):

Garbage collection is done on demand automatically as late as possible. Every operation can result in a garbage collection. We don't have a garbage collection thread like on Linux.

Is there a special reason we do not have a thread?

This operation gives you a bit more control when the garbage collection takes place.

I see it forces a garbage collection so how do you suspend it?

Your original post suggested it could be suspended and this would be good. After a large delete and reboot the start up can hang on the mount. It would be nice to hold this until we have initialised and then let the clean up happen.

---

**Author:** Trac Migrate 2016-12-20T07:54:55.000Z

---

Original author: sebastian.huber

Replying to [chrisj](#):

Replying to [sebastian.huber](#):

Garbage collection is done on demand automatically as late as possible. Every operation can result in a garbage collection. We don't have a garbage collection thread like on Linux.

Is there a special reason we do not have a thread?

Nobody needed it up to now.

This operation gives you a bit more control when the garbage collection takes place.

I see it forces a garbage collection so how do you suspend it? Your original post suggested it could be suspended and this would be good. After a large delete and reboot the start up can hang on the mount. It would be nice to hold this until we have initialised and then let the clean up happen.

With the `RTEMS_JFFS2_ON_DEMAND_GARBAGE_COLLECTION` and the `rtems_jffs2_control::trigger_garbage_collection` you have now the ability to use a garbage collection thread in your application.

---

**Author:** Chris Johns 2016-12-20T10:20:07.000Z

---

Original author: sebastian.huber

Replying to [sebastian.huber](#):

Replying to [chrisj](#):

Replying to [sebastian.huber](#):

Garbage collection is done on demand automatically as late as possible. Every operation can result in a garbage collection. We don't have a garbage collection thread like on Linux.

Is there a special reason we do not have a thread?

Nobody needed it up to now.

Great, that is fine.

This operation gives you a bit more control when the garbage collection takes place.

I see it forces a garbage collection so how do you suspend it? Your original post suggested it could



be suspended and this would be good. After a large delete and reboot the start up can hang on the mount. It would be nice to hold this until we have initialised and then let the clean up happen.

With the RTEMS\_JFFS2\_ON\_DEMAND\_GARBAGE\_COLLECTION and the rtems\_jffs2\_control::trigger\_garbage\_collection you have now the ability to use a garbage collection thread in your application.

OK. I will take a look. It would be good to have an example of doing this or even something a user can pull in.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.774 2841 - Add NXP SC16IS752 serial device driver

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2841                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-12-14T14:19:23.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::4.11, version::4.12, version::5         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2841">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2841</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Add Termios device driver for NXP SC16IS752 (RS232/RS485 over SPI or I2C).

---

**Author:** Trac Migrate 2016-12-16T10:30:07.000Z

---

Original author: sebastian.huber

In changeset 9edc73013bbf20d5ca7df67df46699ca32c3e371:

dev: Add NXP SC16IS752 serial device driver Update [#2841](#).

**Author:** Trac Migrate 2017-01-30T14:07:40.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*
- **Version** changed from ~"4.11" to ~"4.12"

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.775 2839 - Add new interrupt server driven Termios mode

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2839                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-12-14T12:36:47.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::4.11                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2839">https://gitlab.rtems.org/rtems/rtems/-/issues/2839</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Add a new new interrupt server driven Termios mode (TERMIOS\_IRQ\_DRIVEN). This mode is identical to the interrupt driven mode except that a mutex is used for device level locking. The intended use case for this mode are device drivers that use the interrupt server, e.g. SPI or I2C connected devices.

**Author:** Trac Migrate 2016-12-16T10:29:55.000Z

Original author: sebastian.huber

In changeset e34fe384cb7ecdd2643e8bf528e08e1c988abc8a:

termios: Add TERMIO\_IRQ\_SERVER\_DRIVEN Add a new interrupt server driven Termios mode (TERMIO\_IRQ\_DRIVEN). This mode is identical to the interrupt driven mode except that a mutex is used for device level locking. The intended use case for this mode are device drivers that use the interrupt server, e.g. SPI or I2C connected devices. Update #2839.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2016-12-23T14:12:15.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[5bb51a43d1c770dfaddd484f0e5f6d104b8df92e/rtems-docs]

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-05-11T07:31:02.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-09T06:27:14.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.776 2838 - Termios task driven mode should use mutex for device operations

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2838                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-12-14T12:27:32.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::4.11                                |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2838">https://gitlab.rtems.org/rtems/rtems/-/issues/2838</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Termios has a task driven mode (`TERMIO_TASK_DRIVEN`). This mode aims to avoid long sections with disabled interrupts. This is only partly implemented since the device level state is still protected by disabled interrupts. Use a mutex to protect the device level state in task driven mode to fix this issue.

---

**Author:** Trac Migrate 2016-12-16T10:29:41.000Z

---

Original author: sebastian.huber

In changeset c3764ce80588461d086e844e68002142dbd1ead9:

termios: Use mutex for task driven mode Termios has a task driven mode (`TERMIO_TASK_DRIVEN`). This mode aims to avoid long sections with disabled interrupts. This is only partly implemented since the device level state is still protected by disabled interrupts. Use a mutex to protect the device level state in task driven mode to fix this issue. Update [#2838](#).

---

**Author:** Trac Migrate 2016-12-23T13:48:25.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[5bb51a43d1c770dfaddd484f0e5f6d104b8df92e/rtems-docs]

---

**Author:** Trac Migrate 2017-02-03T09:58:24.000Z

---

Original author: sebastian.huber

In changeset 85ed95ec4808d021be50a1ab1f476476a09c5a22:

termios: Fix static device initialization This enables early `printk()` support. Update [#2838](#).

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.777 2835 - Ada support is broken on SMP configurations

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2835                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-12-07T07:58:07.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::duplicate, tickettype::defect, tool::gcc, version::4.11                               |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2835">https://gitlab.rtems.org/rtems/rtems/-/issues/2835</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The Ada support is the last user of a task variable: `rtems_ada_self`. This doesn't work on SMP configurations. The Ada support in GCC should be changed to use a function call or C11 thread-local storage.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-03-07T10:07:33.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"5.0" to %"Indefinite"
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-05-23T07:58:43.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Resolution** set to ~"duplicate"
- **Status** changed from *assigned* to *closed*

This is a duplicate of [#2289](#).

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-10-05T08:31:08.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"4.12.0"

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-09T06:27:14.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.778 2829 - xz git URL in README is broken

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2829                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2016-11-30T22:22:19.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2829">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2829</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Use <http://git.tukaani.org/>

**Author:** Trac Migrate 2017-02-16T10:19:49.000Z

It should be:

<http://git.tukaani.org/?p=xz-embedded.git;a=summary>

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-10-12T02:37:55.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In [changeset:”dfa9a2e7ea47d74883775b4f501d38f126032312/rtems”  
dfa9a2e7/rtems]:

```
1 xz/README: Correct URL
2
3 Closes #2829.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

## 4.2.1.779 2826 - arm\_cp15\_get\_translation\_table\_base\_control\_register warning.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2826                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-11-24T02:08:26.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::5                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2826">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2826</a> |
| <b>Merges</b>      | 0                                                                                                                             |

arm\_cp15\_get\_translation\_table\_base\_control\_register in c/src/lib/libcpu/arm/shared/include/arm-cp15.h returns a pointer however ttb\_cr is not a pointer”

```

1 ../../cpukit/../../../../xilinx_zynq_zedboard/lib/include/libcpu/arm-cp15.h: In_
  ↳function 'arm_cp15_get_translation_table_base_control_register':
2 ../../cpukit/../../../../xilinx_zynq_zedboard/lib/include/libcpu/arm-cp15.h:401:10:
  ↳warning: return makes pointer from integer without a cast [-Wint-conversion]
3 return ttb_cr;
4 ^~~~~~

```

**Author:** Trac Migrate 2017-02-15T14:10:48.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

[444cb5cd23872182f4a2fac3ca25cdbf79a49bff/rtems]

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

## 4.2.1.780 2825 - Improve the fatal error handling chapter of the user manual

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2825                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-11-23T06:08:10.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | doc, priority::normal, resolution::fixed, tickettype::enhancement, version::5                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2825">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2825</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

At least replace the “Document me” markers with something useful.

**Author:** Trac Migrate 2016-11-23T11:55:15.000Z

Original author: sebastian.huber

In changeset bee032327997cb9f00d75e816ea93c7e1942a510:

score: Uncomment unused internal error codes Update #2825.

**Author:** Trac Migrate 2016-11-23T12:44:34.000Z

Original author: sebastian.huber

In changeset 73f9c2c27ba6a22f8bc3cce9298c951c3728741:

smp tests/smpfatal03: Use timer to provoke error Avoid use of internal  
\_Thread\_Dispatch\_disable() function. Update #2825.

**Author:** Trac Migrate 2016-11-23T12:44:56.000Z

Original author: sebastian.huber

In changeset f6edd8807991f1da8e538c6fbadf1d0c99e76326:

score: Explicitly define the fatal source numbers Update #2825.

**Author:** Trac Migrate 2016-12-12T07:04:49.000Z

Original author: sebastian.huber

In changeset b6606e8d9911d1487dbf8338447e7560d09ff48c:



score: Remove fatal is internal indicator The fatal is internal indicator is redundant since the fatal source and error code uniquely identify a fatal error. Keep the fatal user extension is internal parameter for backward compatibility and set it to false always. Update [#2825](#).

---

**Author:** Trac Migrate 2016-12-12T07:04:59.000Z

---

Original author: sebastian.huber

In changeset 6a9282d9bb7dd6d7665adb858161edf4e1d0778a:

Rename is\_internal to always\_set\_to\_false Update [#2825](#).

---

**Author:** Trac Migrate 2016-12-12T07:05:09.000Z

---

Original author: sebastian.huber

In changeset 279d5260c3660e230189ea7d6b45ddf60523b2fe:

Add INTERNAL\_ERROR RTEMS\_INIT\_TASK\_CREATE\_FAILED Update [#2825](#).

---

**Author:** Trac Migrate 2016-12-12T07:05:19.000Z

---

Original author: sebastian.huber

In changeset 0a81a58254f993652822dddba7b73cc7ac439dad:

Add INTERNAL\_ERROR POSIX\_INIT\_THREAD\_CREATE\_FAILED Update [#2825](#).

---

**Author:** Trac Migrate 2016-12-12T07:05:38.000Z

---

Original author: sebastian.huber

In changeset 825296881297025df2f22e2e4e6f2be1d4f0ea61:

INTERNAL\_ERROR\_LIBIO\_USER\_ENV\_KEY\_CREATE\_FAILED Update [#2825](#).

---

**Author:** Trac Migrate 2016-12-12T07:05:48.000Z

---

Original author: sebastian.huber

In changeset 9622f7796f782a03d0c18261e21d0353880960cf:

Add INTERNAL\_ERROR\_LIBIO\_SEM\_CREATE\_FAILED Update [#2825](#).

---

**Author:** Trac Migrate 2016-12-12T07:06:07.000Z

---

Original author: sebastian.huber

In changeset a5ba08eb4f20591e8c36a12ae4a30c13f8be5c56:

Add INTERNAL\_ERROR\_LIBIO\_STDOUT\_FD\_OPEN\_FAILED Update  
#2825.

**Author:** Trac Migrate 2016-12-12T07:06:16.000Z

Original author: sebastian.huber

In changeset e203b65e516c8201360f018a3f029185cd10cba6:

Add INTERNAL\_ERROR\_LIBIO\_STDERR\_FD\_OPEN\_FAILED Update  
#2825.

**Author:** Trac Migrate 2016-12-12T07:08:35.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Should be sufficiently good for now.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.781 2824 - arm/lpc23xx\_tli800 no longer links tar01

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2824                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-11-22T18:34:37.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:arm, priority::high, resolution::fixed, tickettype::defect, version::5                                                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2824">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2824</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Normally I would add the test to those skipped but I thought this deserved a second look. Should this BSP be able to run this test? I thought it was a fairly beefy board.

```
arm-rtems4.12-gcc -B../././././lpc23xx_tli800/lib/ -specs bsp_specs -qrtems -
mcpu=arm7tdmi-s -mthumb -Os -g -ffunction-sections -fdata-sections -Wall -Wmissing-
prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -
Wl,-gc-sections -mcpu=arm7tdmi-s -mthumb -DHAVE_XZ=1 -o tar01.exe init.o
test_cat.o initial_filesystem_tar.o initial_filesystem_tar_gz.o initial_filesystem_tar_xz.o
-lrtemscpu -lz /data/home/joel/rtems-4.11-work/tools/4.12/bin/./lib/gcc/arm-
rtems4.12/6.2.1/././././arm-rtems4.12/bin/ld: tar01.exe section ``.data' will not fit
in region ``ROM_INT' /data/home/joel/rtems-4.11-work/tools/4.12/bin/./lib/gcc/arm-
rtems4.12/6.2.1/././././arm-rtems4.12/bin/ld: region ``ROM_INT' overflowed by 36 bytes
collect2: error: ld returned 1 exit status gmake[7]: *** [tar01.exe] Error 1
```

**Author:** Trac Migrate 2016-11-23T06:12:02.000Z

No, this is a low-end target in terms of memory.

**Author:** Trac Migrate 2016-11-23T06:47:46.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 3142727602622f7e8f0a58fe3f71648292c3733a:

bsp/lpc23xx\_tli800: Disable tar01 test Close [#2824](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.782 2823 - Nearly all m68k BSPs do not Build on Master

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2823                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-11-22T18:32:44.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::high, resolution::fixed, tickettype::defect, version::5                                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2823">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2823</a> |
| <b>Merges</b>      | 0                                                                                                                             |

av5282 is the first

```
In file included from ../../cpukit/../../av5282/lib/include/rtems/score/types.h:22:0,
from ../../cpukit/../../av5282/lib/include/rtems/score/cpu.h:26,
from ../../rtems/c/src/../../cpukit/score/src/percpuasm.c:19:
../../cpukit/../../av5282/lib/include/rtems/score/defs.h:241:5: error: static
assertion failed: "PER_CPU_OFFSET_EXECUTING" _Static_assert(cond, # msg)
^
../../rtems/c/src/../../cpukit/score/src/percpuasm.c:98:1: note:
in expansion of macro 'RTEMS_STATIC_ASSERT' RTEMS_STATIC_ASSERT(
^~~~~~
../../cpukit/../../av5282/lib/include/rtems/score/defs.h:241:5:
error: static assertion failed: "PER_CPU_OFFSET_HEIR" _Static_assert(cond,
# msg) ^
../../rtems/c/src/../../cpukit/score/src/percpuasm.c:103:1:
note: in expansion of macro 'RTEMS_STATIC_ASSERT' RTEMS_STATIC_ASSERT(
^~~~~~
```

**Author:** Trac Migrate 2016-11-23T06:56:05.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset a550b3f35a32e6c74c78aeda1154b1d901574168:

score: Force Per\_CPU\_Control::executing alignment This fixes the CPU ports with relaxed alignment restrictions, e.g. type alignment is less than the type size. Close [#2822](#). Close [#2823](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.783 2822 - m32csim does not build on master

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2822                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-11-22T18:30:51.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::high, resolution::fixed, tickettype::defect, version::5                                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2822">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2822</a> |
| <b>Merges</b>      | 0                                                                                                                             |

In file included from ../../cpukit/../../m32csim/lib/include/rtems/score/types.h:22:0,  
 from ../../cpukit/../../m32csim/lib/include/rtems/score/cpu.h:40,  
 from ../../rtems/c/src/../../cpukit/score/src/percpuasm.c:19:  
 ../../cpukit/../../m32csim/lib/include/rtems/score/basedefs.h:244:17: error:  
 size of array 'rtems\_static\_assert\_PER\_CPU\_OFFSET\_EXECUTING' is neg-  
 ative typedef int **rtems\_static\_assert\_** ## msg [(cond) ? 1 : -1] ^  
 ../../rtems/c/src/../../cpukit/score/src/percpuasm.c:98:1: note: in  
 expansion of macro 'RTEMS\_STATIC\_ASSERT' RTEMS\_STATIC\_ASSERT(  
 ../../cpukit/../../m32csim/lib/include/rtems/score/basedefs.h:244:17: error: size of array  
 'rtems\_static\_assert\_PER\_CPU\_OFFSET\_HEIR' is negative typedef int **rtems\_static\_assert\_** ##  
 msg [(cond) ? 1 : -1] ^ ../../rtems/c/src/../../cpukit/score/src/percpuasm.c:103:1:  
 note: in expansion of macro 'RTEMS\_STATIC\_ASSERT' RTEMS\_STATIC\_ASSERT( ^

**Author:** Trac Migrate 2016-11-23T06:56:05.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset a550b3f35a32e6c74c78aeda1154b1d901574168:

score: Force Per\_CPU\_Control::executing alignment This fixes the CPU  
 ports with relaxed alignment restrictions, e.g. type alignment is less than  
 the type size. Close #2822. Close #2823.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.784 2821 - No BSPs Build on Master

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2821                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-11-21T22:58:01.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::highest, resolution::invalid, tickettype::defect, version::5                                                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2821">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2821</a> |
| <b>Merges</b>      | 0                                                                                                                             |

I have the latest tools.

All BSPs appear to fail like this:

```
powerpc-rtems4.11-gcc -pipe -DHAVE_CONFIG_H -I. -I../cpukit/../../psim/lib/include
-meabi -mcpu=603e -msdata=sysv -fno-common -Dppc603e -O2 -g -fno-keep-
inline-functions -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -
Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT src/libscore_a-
smpbarrierwait.o -MD -MP -MF src/.deps/libscore_a-smpbarrierwait.Tpo -c
-o src/libscore_a-smpbarrierwait.o ``test -f 'src/smpbarrierwait.c' || echo
'../../../../../rtems/c/src/../../cpukit/score/'``src/smpbarrierwait.c powerpc-rtems4.11-
gcc -pipe -DHAVE_CONFIG_H -I. -I../cpukit/../../psim/lib/include -meabi -
mcpu=603e -msdata=sysv -fno-common -Dppc603e -O2 -g -fno-keep-inline-functions
-ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-
declaration -Wstrict-prototypes -Wnested-externs -MT src/libscore_a-kern_tc.o -MD -MP
-MF src/.deps/libscore_a-kern_tc.Tpo -c -o src/libscore_a-kern_tc.o ``test -f 'src/kern_tc.c'
|| echo ' ../../../../../rtems/c/src/../../cpukit/score/'``src/kern_tc.c powerpc-rtems4.11-
gcc -pipe -DHAVE_CONFIG_H -I. -I../cpukit/../../psim/lib/include -meabi -
mcpu=603e -msdata=sysv -fno-common -Dppc603e -O2 -g -fno-keep-inline-functions
-ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-
declaration -Wstrict-prototypes -Wnested-externs -MT src/libscore_a-libatomic.o -MD
-MP -MF src/.deps/libscore_a-libatomic.Tpo -c -o src/libscore_a-libatomic.o ``test -f
'src/libatomic.c' || echo ' ../../../../../rtems/c/src/../../cpukit/score/'``src/libatomic.c
mv -f src/.deps/libscore_a-semaphore.Tpo src/.deps/libscore_a-semaphore.Po
mv -f src/.deps/libscore_a-once.Tpo src/.deps/libscore_a-once.Po
../../../../../rtems/c/src/../../cpukit/score/src/libatomic.c:19:32: fatal error: ma-
chine/_libatomic.h: No such file or directory
```

include <machine/\_libatomic.h>

```
^ compilation terminated. gmake[6]: *** [src/libscore_a-
libatomic.o] Error 1 In file included from /data/home/joel/rtems-
4.11-work/tools/4.11/powerpc-rtems4.11/include/sys/param.h:89:0,
from ../../../../../rtems/c/src/../../cpukit/score/src/kern_tc.c:48:
../../cpukit/../../psim/lib/include/sys/uio.h:41:9: error: unknown type name
'__ssize_t' typedef __ssize_t ssize_t; ^ ../../cpukit/../../psim/lib/include/sys/uio.h:46:9:
error: unknown type name '__off_t' typedef __off_t off_t; ^
../../cpukit/../../psim/lib/include/sys/uio.h:46:17: error: conflicting types for 'off_t'
typedef __off_t off_t;
```

**Author:** Trac Migrate 2016-11-22T06:06:50.000Z

Replying to [joel.sherrill](#):

I have the latest tools. All BSPs appear to fail like this:

```
powerpc-rtems4.11-gcc -pipe -DHAVE_CONFIG_H -I. -
I../cpukit/../../psim/lib/include [...]
```

Maybe you tried to build the master with the 4.11 tool chain?

**Author:** Joel Sherrill 2016-11-22T16:58:06.000Z

- **Resolution** set to ~"invalid"

- **Status** changed from *new* to *closed*

Slaps head.. Doh! I switched the testing scripts over to 4.11 to get a warnings report and forgot to switch them back.

Thanks.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.785 2820 - All SPARC64 BSPs do not Build on master

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2820                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-11-18T19:54:09.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:sparc, priority::highest, resolution::fixed, tickettype::defect, version::5                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2820">https://gitlab.rtems.org/rtems/rtems/-/issues/2820</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Recent changes broke all builds:

```

sparc64-rtems4.12-gcc      -pipe      -DHAVE_CONFIG_H      -I../.. -
I../..../cpukit/..../usiii/lib/include -mcpu=ultrasparc3 -DUS3 -DSUN4U -g -
O2 -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-
declaration -Wstrict-prototypes -Wnested-externs -MT libscorecpu_a-sparc64-exception-
frame-print.o -MD -MP -MF .deps/libscorecpu_a-sparc64-exception-frame-print.Tpo -c -o
libscorecpu_a-sparc64-exception-frame-print.o test -f 'sparc64-exception-frame-print.c'
|| echo '...../rtems/c/src/...../cpukit/score/cpu/sparc64/
``sparc64-exception-frame-print.c sparc64-rtems4.12-gcc --pipe -DHAVE_CONFIG_H
-I..... -I...../cpukit/...../usiii/lib/include -mcpu=ultrasparc3 -DUS3
-DSUN4U -g -O2 -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes
-Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -MT
../no_cpu/libscorecpu_a-cpucounterread.o -MD -MP -MF ../no_cpu/.deps/
libscorecpu_a-cpucounterread.Tpo -c -o ../no_cpu/libscorecpu_a-cpucounterread.o
``test -f '...../no_cpu/cpucounterread.c' || echo '...../rtems/
c/src/...../cpukit/score/cpu/sparc64/...../no_cpu/cpucounterread.c In file included from
...../rtems/c/src/...../cpukit/score/cpu/sparc64/...../no_cpu/cpucounterread.c:15:0:
...../cpukit/...../usiii/lib/include/rtems/score/cpu.h: In function

```

```

‘_CPU_ISR_Is_enabled’: ../../../../cpukit/../../usiii/lib/include/rtems/score/cpu.h:759:12:
error: ‘psr’ undeclared (first use in this function) return ( psr & SPARC_PSTATE_IE_MASK
) != 0;    ^~~ ../../../../cpukit/../../usiii/lib/include/rtems/score/cpu.h:759:12:
note: each undeclared identifier is reported only once for each function it ap-
pears in gmake[7]: *** [../no_cpu/libscorecpu_a-cpucounterread.o] Error 1 mv -f
.deps/libscorecpu_a-context.Tpo .deps/libscorecpu_a-context.Po In file included from
../../../../cpukit/../../usiii/lib/include/rtems/system.h:23:0,

```

**Author:** Trac Migrate 2016-11-21T09:29:31.000Z

In changeset 27eccdad87a5abaa44edf756254db687a3a05be1:

sparc64: Fix \_CPU\_ISR\_Is\_enabled() Update [#2820](#).

**Author:** Trac Migrate 2016-11-21T09:29:41.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In changeset ccc92b81c9fa4a969bdcc92cf19667be105740c3:

score: Group Per\_CPU\_Control members by alignment Close [#2820](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.786 2819 - powerpc-ss555 does not compile on master

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2819                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-11-18T19:53:13.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:powerpc, priority::highest, resolution::fixed, tickettype::defect, version::5                                  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2819">https://gitlab.rtems.org/rtems/rtems/-/issues/2819</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Recent changes broke this configuration:



```

gmake[6]: Entering directory `/data/home/joel/rtems-4.11-work/rtems-testing/rtems/build-
powerpc-ss555-rtems/powerpc-rtems4.12/c/ss555/testsuites/samples/hello'      powerpc-
rtems4.12-gcc -B.././././././ss555/lib/ -specs bsp_specs -qrtems -DHAVE_CONFIG_H
-I. -I.././././././././rtems/c/src/././testsuites/samples/hello -I.. -mcpu=505 -
Dmpc555 -O2 -g -fno-keep-inline-functions -Wall -Wmissing-prototypes -Wimplicit-
function-declaration -Wstrict-prototypes -Wnested-externs -MT init.o -MD -MP -MF
.deps/init.Tpo -c -o init.o .././././././././rtems/c/src/././testsuites/samples/hello/init.c
In file included from .././././././ss555/lib/include/rtems/score/percpu.h:22:0,
from .././././././ss555/lib/include/rtems/confdefs.h:32,
from ../././././././rtems/c/src/././testsuites/samples/hello/init.c:51:
.././././././ss555/lib/include/rtems/score/cpumimpl.h:196:3: error: conflicting types
for 'CPU_Interrupt_frame' } CPU_Interrupt_frame; ^~~~~~
In file included from .././././././ss555/lib/include/bsp/irq.h:28:0,
from .././././././ss555/lib/include/bsp.h:31,
from .././././././rtems/c/src/././testsuites/samples/hello/init.c:
.././././././ss555/lib/include/libcpu/irq.h:193:3: note: previous declaration of
'CPU_Interrupt_frame' was here } CPU_Interrupt_frame; ^~~~~~
gmake[6]: *** [init.o] Error 1
gmake[6]: Target `all' not remade because of errors.

```

**Author:** Trac Migrate 2016-11-21T10:20:30.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset f730c25b707c7d6836d0a9bc2453dd0ca3cfa4e0:

powerpc/mpc5xx: Rename CPU\_Interrupt\_frame The MPC5XX support  
uses a legacy interrupt/exception infrastructure. Close [#2819](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.787 2818 - NIOS2 Does Not Compile on Master

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2818                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-11-18T19:52:18.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::highest, resolution::fixed, tickettype::defect, version::5                                                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2818">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2818</a> |
| <b>Merges</b>      | 0                                                                                                                             |

```

../../../../../../../../rtems/c/src/../../../../cpukit/score/cpu/nios2/nios2-isr-get-level.c: In function
'_CPU_ISR_Is_enabled': ../../../../../../../../../../rtems/c/src/../../../../cpukit/score/cpu/nios2/nios2-isr-
get-level.c:26:16: error: 'status' undeclared (first use in this function) return ((sta-
tus & NIOS2_STATUS_IL_MASK) >> NIOS2_STATUS_IL_OFFSET) == 0; ^~~~~~
../../../../../../../../../../../../rtems/c/src/../../../../cpukit/score/cpu/nios2/nios2-isr-get-level.c:26:16: note:
each undeclared identifier is reported only once for each function it appears in
../../../../../../../../../../../../rtems/c/src/../../../../cpukit/score/cpu/nios2/nios2-isr-get-level.c:32:1: warn-
ing: control reaches end of non-void function [-Wreturn-type] } ^

```

**Author:** Trac Migrate 2016-11-21T09:15:19.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset fd6d3f1f0361b2fe875b08a3c11f078fe933ff24:

nios2: Fix \_CPU\_ISR\_Is\_enabled() Close [#2818](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.788 2817 - All Blackfin BSPs do not Compile on Master

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2817                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-11-18T19:51:22.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::highest, resolution::fixed, tickettype::defect, version::5                                                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2817">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2817</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Recent changes to master resulted in this:

```
bfbin-rtems4.12-gcc      -pipe      -DHAVE_CONFIG_H      -I../.. -
I../..../cpukit/../../bf537Stamp/lib/include      -O2      -g      -ffunction-sections      -
fdata-sections      -Wall      -Wmissing-prototypes      -Wimplicit-function-declaration      -
Wstrict-prototypes      -Wnested-externs      -MT      libscorecpu_a-cpu.o      -MD      -MP      -MF
.deps/libscorecpu_a-cpu.Tpo      -c      -o      libscorecpu_a-cpu.o      ``test -f 'cpu.c' || echo
'../..../..../rtems/c/src/../../cpukit/score/cpu/bfin/'`` cpu.c      bfbin-rtems4.12-gcc
-pipe -DHAVE_CONFIG_H -I../.. -I../..../cpukit/../../bf537Stamp/lib/include
-DASM -O2 -g -ffunction-sections -fdata-sections -Wall -Wmissing-prototypes -
Wimplicit-function-declaration -Wstrict-prototypes -Wnested-externs -O2 -g -ffunction-
sections -fdata-sections -Wall -Wmissing-prototypes -Wimplicit-function-declaration
-Wstrict-prototypes -Wnested-externs -MT libscorecpu_a-cpu_asm.o -MD -MP -MF
.deps/libscorecpu_a-cpu_asm.Tpo -c -o libscorecpu_a-cpu_asm.o ``test -f 'cpu_asm.S'
|| echo '...../rtems/c/src/../../cpukit/score/cpu/bfin/'`` cpu_asm.S
...../cpukit/../../bf537Stamp/lib/include/rtems/score/cpu.h:  Assembler messages:
...../cpukit/../../bf537Stamp/lib/include/rtems/score/cpu.h:670: Error: syntax error.
Input text was static. ..../cpukit/../../bf537Stamp/lib/include/rtems/score/cpu.h:670:
Error: ..../cpukit/../../bf537Stamp/lib/include/rtems/score/cpu.h:671: Error: syntax
error. Input text was {. ..../cpukit/../../bf537Stamp/lib/include/rtems/score/cpu.h:671:
Error: ..../cpukit/../../bf537Stamp/lib/include/rtems/score/cpu.h:672: Error: syntax
error. Input text was return. ..../cpukit/../../bf537Stamp/lib/include/rtems/score/cpu.h:672:
Error: ..../cpukit/../../bf537Stamp/lib/include/rtems/score/cpu.h:673: Error: syntax
error. Input text was }. ..../cpukit/../../bf537Stamp/lib/include/rtems/score/cpu.h:673:
Error: gmake[7]: *** [libscorecpu_a-cpu_asm.o] Error 1
```

**Author:** Trac Migrate 2016-11-21T09:07:41.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset c6f446bd702f6bdc469c7ed3a0e2b86cb9810032:

bfbin: ASM compatibility for <rtems/score/cpu.h> Close [#2817](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-09T06:27:14.000Z |
|------------------------------------------------------|

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.789 2816 - Many ARM BSPs have Static Assert

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2816                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-11-18T17:39:18.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:arm, priority::highest, resolution::fixed, tickettype::defect, version::5                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2816">https://gitlab.rtems.org/rtems/rtems/-/issues/2816</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Hi

With the recent commits, many BSPs on the master do not build. They error out with this static assert:

```
In file included from ../../../../cpukit/../../gumstix/lib/include/rtems/score/types.h:23:0,
from
        ../../../../cpukit/../../gumstix/lib/include/rtems/score/cpu.h:32,
from
        ../../../../cpukit/../../gumstix/lib/include/rtems/system.h:23,
from
        ../../../../rtems/c/src/../../cpukit/score/cpu/arm/cpu.c:29:
../../../../cpukit/../../gumstix/lib/include/rtems/score/basedefs.h:241:5: error: static
assertion failed: "ARM_CONTEXT_CONTROL_ISR_DISPATCH_DISABLE" _Static_assert(cond,
# msg) ^ ../../../../rtems/c/src/../../cpukit/score/cpu/arm/cpu.c:54:3: note: in
expansion of macro 'RTEMS_STATIC_ASSERT' RTEMS_STATIC_ASSERT(
```

The list of BSPs is:

```
arm1136jfs arm1136js arm7tdmi arm920 csb336 csb337 csb637 edb7312 gumstix
kit637_v6 lpc2362 lpc23xx_tli800 lpc24xx_ea lpc24xx_ncs_ram lpc24xx_ncs_rom_ext
lpc24xx_ncs_rom_int lpc24xx_plx800_ram lpc24xx_plx800_rom_int lpc32xx_mzx
lpc32xx_mzx_stage_1 lpc32xx_mzx_stage_2 lpc32xx_phycore raspberrypi rtl22xx rtl22xx_t
smdk2410
```

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2016-11-21T09:15:09.000Z |
|------------------------------------------------------|

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 9f225dea192e7b17ba465a6b78029532cdf97933:

arm: Fix ARM\_CONTEXT\_CONTROL\_ISR\_DISPATCH\_DISABLE Close  
#2816.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.790 2811 - More robust thread dispatching on SMP and ARM Cortex-M

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2811                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-11-15T06:45:22.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::4.11                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2811">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2811</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

On SMP configurations, it is a fatal error to call blocking operating system with interrupts disabled, since this prevents delivery of inter-processor interrupts. This could lead to executing threads which are not allowed to execute resulting in undefined behaviour.

The ARM Cortex-M port has a similar problem, since the interrupt state is not a part of the thread context.

Add a new CPU port function:

```

1 /**
2  * @brief Returns true if interrupts are enabled in the specified ISR level,
3  * otherwise returns false.
4  *
5  * @param[in] level The ISR level.
6  *
7  * @retval true Interrupts are enabled in the ISR level.
8  * @retval false Otherwise.
9  */
10 RTEMS_INLINE_ROUTINE bool _CPU_ISR_Is_enabled( uint32_t level )
11 {

```

(continues on next page)

(continued from previous page)

```
12 return false;  
13 }
```

Use this function to ensure that `_Thread_Do_dispatch()` is called with an interrupt level with enabled interrupts, otherwise call `_Terminate()`.

**Author:** Chris Johns 2016-11-15T06:47:40.000Z

Original author: sebastian.huber

Is this specific to an SMP build?

**Author:** Trac Migrate 2016-11-15T06:50:03.000Z

Original author: sebastian.huber

I will add `_CPU_ISR_Is_enabled()` unconditionally. The fatal error will be limited to SMP and ARM Cortex-M. However, its an application bug in general to call blocking operations with interrupts disabled.

**Author:** Chris Johns 2016-11-15T20:54:24.000Z

Original author: sebastian.huber

Replying to [sebastian.huber](#):

I will add `_CPU_ISR_Is_enabled()` unconditionally. The fatal error will be limited to SMP and ARM Cortex-M.

I would prefer to see an error code returned. Fatal errors should be limited to internal issues like inconsistencies where the kernel cannot reasonable continue and not user errors with an API. Fatal errors can also be difficult to track down with threading unless you have a thread aware debugger. Not all users or BSPs have this support.

However, its an application bug in general to call blocking operations with interrupts disabled.

Yes I would agree and if a user makes a call to RTEMS that is not valid we should return a suitable error or status code. For a single core system we have allowed this in past release so as a general change this is something that changes our current behavior.

**Author:** Trac Migrate 2016-11-16T06:17:31.000Z

Original author: sebastian.huber

I think a fatal error is more appropriate here.

- Applications which have this usage error needs to be fixed at compile-time. It makes no sense to ship an SMP application with this bug.
- Return codes can be ignored. I definitely have seen code like this before:

```
1 /* This cannot fail, we know the identifier is valid */
2 (void) pthread_mutex_lock(&mtx);
```

- This ticket is a result of porting a real world application from uni-processor to SMP. If you are not an expert of the operating system internals and your application has this bug, then you need easily a couple of days to figure out the problem. So, it is important to make sure it gets detected.
- To figure out what caused a fatal error is easy. The (source, error) pair uniquely identifies the source code location of the error. With a stack trace and the executing thread you get enough information to locate the problem in the code. There is no need for a thread aware debugger.
- This is a new constraint specific to SMP. Existing software may be simply unaware of this issue. However, its important to detect this constraint violation.
- `_Thread_Do_dispatch()` has no return value. Adding this check to other places would be much more difficult, error prone. with more space and time overhead, and labour intensive to test.

**Author:** Chris Johns 2016-11-16T07:43:30.000Z

Original author: sebastian.huber

Replying to [sebastian.huber](#):

I think a fatal error is more appropriate here. \* Applications which have this usage error needs to be fixed at compile-time. It makes no sense to ship an SMP application with this bug.

A fatal error is still run-time and not a compile time error so you have lost me here.

- Return codes can be ignored. I definitely have seen code like this before:

```
{{{
/* This cannot fail, we know the identifier is valid */ (void)
pthread_mutex_lock(&mtx); }}}}
```

This is a different issue and a change of topic. We provide the means for errors to be analyzed and that is our boundary.

- This ticket is a result of porting a real world application from uni-processor to SMP. If you are not an expert of the operating system internals and your application has this bug, then you need easily a couple of days to figure out the problem. So, it is important to make sure it gets detected.

I agree with detecting the issue and there being an error. It is the delivery we are discussing.

The error code should provide some help just like the fatal error code. If one can the other can.

How many fatal errors instance are there in RTEMS in the kernel? Not the number of error code, but the specific locations a fatal error can appear, ie code/line pairs? I have never audited this.

- To figure out what caused a fatal error is easy. The (source, error) pair uniquely identifies the source code location of the error.

The source location is a line the kernel's core code which means users need to step into this code and figure out the answer. I have been hit by this with SMP and it is hard.

With a stack trace and the executing thread you get enough information to locate the problem in the code. There is no need for a thread aware debugger.

This implies testing will highlight the issue because you have a debugger to give you this data. Currently RTEMS standard or default stack traces that get called on a fatal error provide little if any information that could be used to resolve the exact source, eg the thread id executing or even better an unwinder (dreaming here). Better support for tier 1 archs would help.

- This is a new constraint specific to SMP. Existing software may be simply unaware of this issue. However, its important to detect this constraint violation.



I agree it is important.

- \_thread\_Do\_dispatch()  
     has no return  
     value. Adding  
     this check to  
     other places  
     would be much  
     more difficult,  
     error prone.  
     with more  
     space and  
     time overhead,  
     and labour  
     intensive to  
     test.

There are no  
 other similar tests  
 happening now  
 on the blocking  
 paths?

---

**Author:** Trac Migrate 2016-11-16T08:07:30.000Z

---

Original author: sebastian.huber

Replying to [chrisj](#):

Replying to [sebastian.huber](#):

I think a fatal error is more appropriate here. \* Applications which have this usage error needs to be fixed at compile-time. It makes no sense to ship an SMP application with this bug.

A fatal error is still run-time and not a compile time error so you have lost me here.

It is an error that must be fixed during development. Otherwise you have a broken product.

- Return codes can be ignored. I definitely have seen code like this before:

```
{{{
/* This cannot fail, we know the identifier is valid
*/ (void) pthread_mutex_lock(&mtx); }}}}
```

This is a different issue and a change of topic. We provide the means for errors to be analyzed and that is our boundary.

- This ticket is a result of porting a real world application from uni-processor to SMP. If you are not an expert of

the operating system internals and your application has this bug, then you need easily a couple of days to figure out the problem. So, it is important to make sure it gets detected.

I agree with detecting the issue and there being an error. It is the delivery we are discussing. The error code should provide some help just like the fatal error code. If one can the other can. How many fatal errors instance are there in RTEMS in the kernel? Not the number of error code, but the specific locations a fatal error can appear, ie code/line pairs? I have never audited this.

See `Internal_errors_Core_list`, we have a test for every fatal internal error.

- To figure out what caused a fatal error is easy. The (source, error) pair uniquely identifies the source code location of the error.

The source location is a line the kernel's core code which means users need to step into this code and figure out the answer. I have been hit by this with SMP and it is hard.

With a stack trace and the executing thread you get enough information to locate the problem in the code. There is no need for a thread aware debugger.

This implies testing will highlight the issue because you have a debugger to give you this data. Currently RTEMS standard or default stack traces that get called on a fatal error provide little if any information that could be used to resolve the exact source, eg the thread id executing or even better an unwinder (dreaming here). Better support for tier 1 archs would help.

Improved fatal error diagnostics is a different topic. With a debugger is a matter of seconds to figure out the problem spot of a fatal error.

- This is a new constraint specific to SMP. Existing software may be simply unaware of this issue. However, its important to detect this constraint violation.

I agree it is important.

- `_Thread_Do_dispatch()` has no return value. Adding this check to other places would be much more difficult, error prone. with

more space and time overhead,  
and labour intensive to test.

There are no other similar tests happening now on the blocking paths?

No, this is a weak area in RTEMS. For example call `rtems_task_wake_after()` in an interrupt service routine. You don't get any status information that this is stupid.

For now, I think a fatal error is sufficient. In case there is really a problem with this in the field, we can still improve things. What matters is that this constraint violation gets detected, otherwise you can spend hours on debugging.

---

**Author:** Chris Johns 2016-11-17T01:29:24.000Z

---

Original author: [sebastian.huber](#)

Replying to [sebastian.huber](#):

Replying to [chrisj](#):

Replying to [sebastian.huber](#):

I think a fatal error is more appropriate here. \*  
Applications which have this usage error needs  
to be fixed at compile-time. It makes no sense to  
ship an SMP application with this bug.

A fatal error is still run-time and not a compile time error so  
you have lost me here.

It is an error that must be fixed during development. Otherwise you have  
a broken product.

This goes for checking returned error codes as well.

The logical end to this path of discussion is to remove all fatal error  
checks from the kernel in production because they should never appear.  
I am sure you would agree this is not practical therefore there is always a  
finite chance of a fatal error happening and robust systems need to take  
this issue seriously.

In the case of this specific check or test we need to find what is practical.  
The issues are how it effects a user who encounters it, what it does  
to the kernel in terms of overhead and complexity, and what can be  
implemented now and and what could be implemented given the time  
and resources.

How many fatal errors instance are there in  
RTEMS in the kernel? Not the number of error

code, but the specific locations a fatal error can appear, ie code/line pairs? I have never audited this.

See `Internal_errors_Core_list`, we have a test for every fatal internal error.

Where is the user documentation? The C User guide is lacking detail for this and the other generic errors cases.

Looking further into this we have around 300 calls to `rtems_fatal_error_occurred` less some for noise due to an approximate count. Of this around 200 are in the `c/src` tree with about 50 under the `cpukit`. For example we have `rtems_fatal_error_occurred(0xdeadbeef);` in `cpukit/libfs/src/nfsclient/src/nfs.c`.

The we have the family of `*_Fatal*` calls. Getting decent counts is not easy so I will not put them there. We have `_CPU_Fatal_halt`, `_BSP_Fatal_error`, ```_POSIX_Fatal_error```, `MPCI_Fatal`, and `_SMP_Fatal`. Without decent control we end up with `_CPU_Fatal_halt(RTEMS_FATAL_SOURCE_EXCEPTION, 0xECC0);` which is in the NIOS2 interrupt handler.

I am concerned about adding to this without a suitable means to provide accessible user documentation on what we do.

This implies testing will highlight the issue because you have a debugger to give you this data. Currently RTEMS standard or default stack traces that get called on a fatal error provide little if any information that could be used to resolve the exact source, eg the thread id executing or even better an unwinder (dreaming here). Better support for tier 1 archs would help.

Improved fatal error diagnostics is a different topic.

I do not agree. If you argue a case for using fatal errors then I see it as reasonable we discuss how this impacts users.

With a debugger is a matter of seconds to figure out the problem spot of a fatal error.

Yes, however the time needed to understand the issue depends on the person looking and you and I are not suitable to judge this.

A fatal error could occur in production simply due to the fact there is code in

the build that can generate them, and they do happen when performing system integration when there are no debuggers connected. How the error gets translated by a user with no knowledge of the RTEMS internals is the question being proposed. The more fatal errors we add the more of a problem this becomes and this ticket wants to add another.

- This is a new constraint specific to SMP. Existing software may be simply unaware of this issue. However, its important to detect this constraint violation.

I agree it is important.

- \_Thread\_Do\_dispatch()  
has no return value.  
Adding this check to  
other places would  
be much more difficult,  
error prone.  
with more space  
and time overhead,  
and labour intensive  
to test.

There are no other  
similar tests happening  
now on the blocking  
paths?

No, this is a weak area  
in RTEMS. For example call  
rtems\_task\_wake\_after() in an  
interrupt service routine. You  
don't get any status information  
that this is stupid.

Yes we have a few cases like  
this.

For now, I think a fatal  
error is sufficient.

Ok, however there is  
a need for documen-

tation on the error aimed at the user being added to our user manuals.

I would like to see better default exception output and after this discussion I can see a real need for the debug server needing to catch any fatal errors and break the system leaving the user in the thread stack frame with the error.

In case there is really a problem with this in the field, we can still improve things.

In terms of the implementation, sure, in terms of supporting users with suitable documentation I believe we have a problem now.

What matters is that this constraint violation gets detected, otherwise you can spend hours on debugging.

Yes this is the most important item to get resolved.

---

**Author:** Trac Migrate 2016-11-17T14:51:24.000Z

---

Original author: sebastian.huber

I will focus on fatal error documentation improvements. At least for this particular new one.

---

**Author:** Trac Migrate 2016-11-18T07:04:08.000Z

---

Original author: sebastian.huber

In changeset 537f00ebe83370b8336361b8ae34d4a71e7023bb:

score: Restrict task interrupt level to 0 on SMP Update [#2811](#).

---

**Author:** Trac Migrate 2016-11-18T07:04:23.000Z

---

Original author: sebastian.huber

In changeset 408609f6b9cd8e03d3886b7c150efbf7e59b5fb0:

score: Add `_ISR_Is_enabled()` In contrast to `_ISR_Get_level()` the `_ISR_Is_enabled()` function evaluates a level parameter and returns a boolean value. Update [#2811](#).

---

**Author:** Trac Migrate 2016-11-23T11:54:10.000Z

---

Original author: sebastian.huber

In changeset 84e6f15c828869eb7d293096cfcfa0563b5752b3:

score: Robust thread dispatch On SMP configurations, it is a fatal error to call blocking operating system with interrupts disabled, since this prevents delivery of inter-processor interrupts. This could lead to executing threads which are not allowed to execute resulting in undefined behaviour. The ARM Cortex-M port has a similar problem, since the interrupt state is not a part of the thread context. Update [#2811](#).

---

**Author:** Trac Migrate 2016-12-02T12:57:09.000Z

---

Original author: sebastian.huber

In changeset b07e642a2b1249cd64048c5e9f5e45254df7ae65:

smptthreadlife01: Fix due to robust thread dispatch Update [#2811](#).

---

**Author:** Trac Migrate 2016-12-09T12:04:53.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Documentation update is done.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-09-21T11:33:40.000Z

Original author: sebastian.huber

In [changeset:"a4bca6858604e7e32b001e4121da7e83bc614320/rtems" a4bca685/rtems]:

```
1 bspc/powerpc: Fix robust thread dispatch
2
3 Implement thread dispatch code in ppc_exc_wrapup() similar to
4 ppc_exc_interrupt().
5
6 Update #2811.
```

**Author:** Trac Migrate 2017-10-09T06:10:35.000Z

Original author: sebastian.huber

In [changeset:"80933ab316dc9ff682681668acacd91241526/rtems" 80933ab3/rtems]:

```
1 bspc/powerpc: Fix robust thread dispatch again
2
3 Use the saved MSR to account for FPU and AltiVec settings.
4
5 Update #2811.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed



## 4.2.1.791 2810 - Remove sparc/sis BSP variant

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2810                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                                 |
| <b>Created</b>     | 2016-11-14T16:47:36.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:sparc, bsp, priority::normal, resolution::fixed, ticket-type::enhancement, version::5                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2810">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2810</a> |
| <b>Merges</b>      | 0                                                                                                                             |

As discussed in the following thread, the sparc/sis BSP variant is no longer necessary and can be removed.

<https://lists.rtems.org/pipermail/devel/2016-November/016383.html>

This ticket is to track that removal.

- [0001-Remove-sparc-sis-BSP.patch](#)

**Author:** Joel Sherrill 2016-11-15T18:21:26.000Z

- **Attachment** [0001-Remove-sparc-sis-BSP.patch](#) added

**Author:** Joel Sherrill 2016-11-15T18:22:19.000Z

- **Cc** added @jiri

**Author:** Trac Migrate 2016-11-29T15:29:21.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset de7b174e381ee60686487c03c6db8d0ed7596da1:

Remove sparc/sis BSP. closes [#2810](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.792 2809 - Reduce interrupt latency on SMP configurations during thread dispatch

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2809                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-11-14T11:16:00.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | cpukit, priority::high, priority::normal, resolution::fixed, rtems::score, smp, tickettype::enhancement, version::5           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2809">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2809</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Currently we have this situation:

[https://docs.rtems.org/doc-current/share/rtems/html/c\\_user/Symmetric-Multiprocessing-Services-Thread-Dispatch-Details.html#Symmetric-Multiprocessing-Services-Thread-Dispatch-Details](https://docs.rtems.org/doc-current/share/rtems/html/c_user/Symmetric-Multiprocessing-Services-Thread-Dispatch-Details.html#Symmetric-Multiprocessing-Services-Thread-Dispatch-Details)

“On SMP systems, scheduling decisions on one processor must be propagated to other processors through inter-processor interrupts. So, a thread dispatch which must be carried out on another processor happens not instantaneous. Thus several thread dispatch requests might be in the air and it is possible that some of them may be out of date before the corresponding processor has time to deal with them. The thread dispatch mechanism uses three per-processor variables,

- the executing thread,
- the heir thread, and
- an boolean flag indicating if a thread dispatch is necessary or not.

Updates of the heir thread and the thread dispatch necessary indicator are synchronized via explicit memory barriers without the use of locks. A thread can be an heir thread on at most one processor in the system. The thread context is protected by a TTAS lock embedded in the context to ensure that it is used on at most one processor at a time. The thread post-switch actions use a per-processor lock. This implementation turned out to be quite efficient and no lock contention was observed in the test suite.

The current implementation of thread dispatching has some implications with respect to the interrupt latency. It is crucial to preserve the system invariant that a thread can execute on at most one processor in the system at a time. This is accomplished with a boolean indicator in the thread context. The processor architecture specific context switch code will mark that a thread context is no longer executing and waits that the heir context stopped execution before it restores the heir context and resumes execution of the heir thread (the boolean indicator is basically a TTAS lock). So, there is one point in time in which a processor is without a thread. This is essential to avoid cyclic dependencies in case multiple threads migrate at once. Otherwise some supervising entity is necessary to prevent deadlocks. Such a global supervisor would lead to scalability problems so this approach is not used. Currently the context switch is performed with interrupts disabled. Thus in case the heir thread is currently executing on

another processor, the time of disabled interrupts is prolonged since one processor has to wait for another processor to make progress.

It is difficult to avoid this issue with the interrupt latency since interrupts normally store the context of the interrupted thread on its stack. In case a thread is marked as not executing, we must not use its thread stack to store such an interrupt context. We cannot use the heir stack before it stopped execution on another processor. If we enable interrupts during this transition, then we have to provide an alternative thread independent stack for interrupts in this time frame. This issue needs further investigation.

The problematic situation occurs in case we have a thread which executes with thread dispatching disabled and should execute on another processor (e.g. it is an heir thread on another processor). In this case the interrupts on this other processor are disabled until the thread enables thread dispatching and starts the thread dispatch sequence. The scheduler (an exception is the scheduler with thread processor affinity support) tries to avoid such a situation and checks if a new scheduled thread already executes on a processor. In case the assigned processor differs from the processor on which the thread already executes and this processor is a member of the processor set managed by this scheduler instance, it will reassign the processors to keep the already executing thread in place. Therefore normal scheduler requests will not lead to such a situation. Explicit thread migration requests, however, can lead to this situation. Explicit thread migrations may occur due to the scheduler helping protocol or explicit scheduler instance changes. The situation can also be provoked by interrupts which suspend and resume threads multiple times and produce stale asynchronous thread dispatch requests in the system.”

Add an interrupt frame to the per-CPU control which can be used during context switches on SMP configurations.

---

**Author:** Trac Migrate 2016-11-18T07:00:46.000Z

---

Original author: sebastian.huber

In changeset d18560ae053857484cdb87defde44322ba67bacf:

```

sparc64:      Rename      CPU_Minimum_stack_frame      Re-
name          SPARC64-specific      CPU_Minimum_stack_frame      to
SPARC64_Minimum_stack_frame.      Rename      SPARC64-
specific      CPU_MINIMUM_STACK_FRAME_SIZE      to
SPARC64_MINIMUM_STACK_FRAME_SIZE. Update #2809.
```

---

**Author:** Trac Migrate 2016-11-18T07:01:04.000Z

---

Original author: sebastian.huber

In changeset 427dcee8372097b0acb695d3e4645d11fccdbb6d:

```

sparc:  Rename CPU_Minimum_stack_frame Rename SPARC-specific
CPU_Minimum_stack_frame to SPARC_Minimum_stack_frame. Re-
name  SPARC-specific CPU_MINIMUM_STACK_FRAME_SIZE to
SPARC_MINIMUM_STACK_FRAME_SIZE. Update #2809.
```

---

**Author:** Trac Migrate 2016-11-18T07:01:20.000Z

---

Original author: sebastian.huber

In changeset c539a865f4ffc36dcc8395a4c9b9c798e45f3eb2:

sparc: Move CPU\_Interrupt\_frame related defines Move  
CPU\_Interrupt\_frame related defines to <rtems/score/cpuimpl.h>.  
Update #2809.

---

**Author:** Trac Migrate 2016-11-18T07:01:33.000Z

---

Original author: sebastian.huber

In changeset 40d592eb3e6461605838d9427dcb9f5eadc85862:

bsps/powerpc: Avoid use of CPU\_Interrupt\_frame This type is not rele-  
vant for the code since only a pointer is passed around. Update #2809.

---

**Author:** Trac Migrate 2016-11-18T07:01:49.000Z

---

Original author: sebastian.huber

In changeset bf4fdb1f1dcc39635f23fbc9585140be5eedb3d4:

powerpc: Move legacy CPU\_Interrupt\_frame The only remaining user  
of CPU\_Interrupt\_frame on PowerPC is the mpc5xx support. Move it to  
here. Update #2809.

---

**Author:** Trac Migrate 2016-11-18T07:02:02.000Z

---

Original author: sebastian.huber

In changeset 2599c8e63e575ee2a6f40ca995e12d4579b8ba85:

powerpc: Add up to date CPU\_Interrupt\_frame Rename  
ppc\_exc\_min\_frame to CPU\_Interrupt\_frame. Move it and the cor-  
responding defines to <rtems/score/cpuimpl.h>. Update #2809.

---

**Author:** Trac Migrate 2016-11-18T07:02:16.000Z

---

Original author: sebastian.huber

In changeset dbeccf0ec0d34fa169a0ccaf04505f9ce4e9323b:

arm: Provide CPU\_Interrupt\_frame for ARMv4 Update #2809.

---

**Author:** Trac Migrate 2016-11-18T07:02:42.000Z

---

Original author: sebastian.huber

In changeset f9aa34ddd9afa2953cf690eadb6119b1d24f4fc6:

score: Add Per\_CPU\_Control::Interrupt\_frame Update #2809.

---

**Author:** Trac Migrate 2016-11-18T07:02:54.000Z

---

Original author: sebastian.huber

In changeset d5e073cde70211b2471e4366be397370e9f6ce48:

score: Allow interrupts during thread dispatch Use a processor-specific interrupt frame during context switches in case the executing thread is longer executes on the processor and the heir thread is about to start execution. During this period we must not use a thread stack for interrupt processing. Update [#2809](#).

---

**Author:** Trac Migrate 2016-12-23T14:10:09.000Z

---

Original author: sebastian.huber

- **Priority** changed from ~"normal" to ~"high"

---

**Author:** Trac Migrate 2017-01-24T08:00:57.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[ffe8197ac3ef6c504d6d6a233092f2bbc5f82f5c/rtems-docs]

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.793 2808 - Conditionally provide rtems\_interrupt\_frame

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2808                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-11-11T09:40:56.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2808">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2808</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Provide rtems\_interrupt\_frame only if CPU\_ISR\_PASSES\_FRAME\_POINTER is defined to TRUE.

**Author:** Trac Migrate 2016-11-11T10:08:04.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 - The type rtems_interrupt_frame is provided without an API. Define it_
   ↳ to int and add the deprecated attribute. This makes it possible to_
   ↳ move CPU_interrupt_frame to <rtems/score/cpuimpl.h>.
2 + Provide rtems_interrupt_frame only if CPU_ISR_PASSES_FRAME_POINTER is_
   ↳ defined to TRUE.

```

- **Summary** changed from *Deprecate rtems\_interrupt\_frame* to *Conditionally provide rtems\_interrupt\_frame*

Some CPU ports require CPU\_interrupt\_frame due to CPU\_ISR\_PASSES\_FRAME\_POINTER defined to TRUE.

**Author:** Trac Migrate 2016-11-18T07:00:30.000Z

Original author: sebastian.huber

In changeset 141e16d22538bc9f3f79466a774fdad3a9128533:

rtems: Conditionally define rtems\_interrupt\_frame Update #2808.

**Author:** Trac Migrate 2016-12-19T13:38:59.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[117f98c9cb990f358eb199ffedba34649a50134d/rtems-docs]

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-05-11T07:31:02.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-09T06:27:14.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.794 2805 - Use SPRG0 on PowerPC for current per-CPU control (SMP only)

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2805                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-11-09T14:18:46.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:powerpc, priority::normal, resolution::fixed, smp, ticket-type::enhancement, version::5                                  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2805">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2805</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Add `_CPU_Get_current_per_CPU_control()` on SMP configurations as an optimization for PowerPC. Use SPRG0 for the current per-CPU control. This reduces the code size a bit and is slightly faster in some benchmarks.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2016-11-10T09:00:57.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

In changeset 38a1449fd47be848cc40593abd40262e9ad2030d:

powerpc: Add `_CPU_Get_current_per_CPU_control()` Add `_CPU_Get_current_per_CPU_control()` on SMP configurations. Use SPRG0 for the current per-CPU control. This reduces the code size by three instructions and is slightly faster. Update [#2805](#).

---

**Author:** Trac Migrate 2016-11-10T09:19:10.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[6297ad31d09bb5c0bddda418881296b7cbd20152/rtems-docs]

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.795 2803 - Get rid of CPU\_BIG\_ENDIAN and CPU\_LITTLE\_ENDIAN

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2803                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-11-07T06:33:17.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2803">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2803</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The remaining uses of the CPU port defines CPU\_BIG\_ENDIAN and CPU\_LITTLE\_ENDIAN should be replaced by the BSD (also available in glibc) BYTE\_ORDER.

---

**Author:** Trac Migrate 2016-11-07T06:48:53.000Z

---

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed





Original author: sebastian.huber

Where can I find the porting guide?

---

**Author:** Joel Sherrill 2017-01-24T16:58:36.000Z

---

Original author: sebastian.huber

<https://git.rtems.org/rtems-docs/tree/porting>

---

**Author:** Trac Migrate 2017-01-25T10:23:37.000Z

---

Original author: sebastian.huber

I never used this guide before. My main reference for CPU ports is [https://git.rtems.org/rtems/tree/cpukit/score/cpu/no\\_cpu/rtems/score/cpu.h](https://git.rtems.org/rtems/tree/cpukit/score/cpu/no_cpu/rtems/score/cpu.h). It seems that it is not even built in the rtems-docs. Without looking at it, I guess it is out of date and I would need several days to fix this.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.796 2802 - Test "libdl (RTL) 5" fails on SPARC targets

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2802                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2016-11-04T13:55:35.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2802">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2802</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

On GR740 I get:

```

1 rtl: RELOC_32 0x60ae8 @ 0x86edc in /dl-o5.o
2 rtl: relocation: .rela.eh_frame, syms:.symtab
3 rtl: rela: sym:__gxx_personality_v0(20)=00001dec type:3 off:00000013 addend:0
4
5 CPU 0: IU in error mode (tt = 0x07, mem address not aligned)
6 0x0001fa9c: c4040000 ld [%l0], %g2 <rtems_rtl_elf_relocate_rela+204>
7 CPU 1: Power down mode
8 CPU 2: Power down mode
9 CPU 3: Power down mode

```

On GR712RC I get:

```

1 rtl: WDISP_30 0x7ffe2ccd @ 0x40087108 in /dl-o5.o
2 rtl: relocation: .rela.gcc_except_table.exception_dl, syms:.symtab
3 rtl: rela: sym:_ZTISt9exception(32)=40060ae8 type:3 off:00000034 addend:0
4 rtl: RELOC_32 0x40060ae8 @ 0x400871b4 in /dl-o5.o
5 rtl: relocation: .rela.eh_frame, syms:.symtab
6 rtl: rela: sym:__gxx_personality_v0(20)=40001dec type:3 off:00000013 addend:0

```

Target resets now.

- [libdl-sparc-R\\_SPARC\\_32-missaligned.patch](#)

**Author:** Chris Johns 2016-11-10T05:39:59.000Z

Original author: sebastian.huber

This is due to the following relocation record:

```

1 Relocation section '.rela.eh_frame' at offset 0x5fe8 contains 3 entries:
2 Offset      Info      Type           Sym.Value  Sym. Name + Addend
3 00000013  00001403  R_SPARC_32      00000000  __gxx_personality_v0 + 0

```

The type is R\_SPARC\_32 is declared as being aligned however the offset is 0x13 and this causes a misaligned access.

**Author:** Trac Migrate 2016-11-10T07:32:09.000Z

Original author: sebastian.huber

Is this a bug in the tool chain or the libdl?

**Author:** Chris Johns 2016-11-10T07:46:01.000Z

Original author: sebastian.huber

I am investigating. At this stage it looks like a bug in gas. Binutils contain code that checks the lower bits of the address and selects either R\_SPARC\_32 or UA32. I am looking to make a suitable test case so I can see what is happening.

---

**Author:** Chris Johns 2016-11-11T05:50:10.000Z

---

Original author: sebastian.huber

[https://sourceware.org/bugzilla/show\\_bug.cgi?id=20803](https://sourceware.org/bugzilla/show_bug.cgi?id=20803)

---

**Author:** Chris Johns 2016-11-11T06:09:35.000Z

---

Original author: sebastian.huber

- **Attachment** [libdl-sparc-R\\_SPARC\\_32-missaligned.patch](#) added

Miss-aligned R\_SPARC\_32 offset work around.

---

**Author:** Chris Johns 2016-11-11T06:10:48.000Z

---

Original author: sebastian.huber

I have attached a work-around which allows dl05 to run and fail in the expected manner.

We can review the status of this patch once we get some feedback from the binutil's community.

---

**Author:** Trac Migrate 2016-11-14T14:24:08.000Z

---

Original author: sebastian.huber

In changeset 316da9356ad7b612f6df6ed1e47b62268450438e:

rtl-mdreloc-sparc.c: Do not print unaligned pointer and cause unaligned access. updates [#2802](#).

---

**Author:** Trac Migrate 2016-11-22T06:41:39.000Z

---

Original author: sebastian.huber

Now the test terminates with

```

1 rtl: UA_32 0x8c6d8 @ 0x8c755 in /dl-o5.o
2 rtl: alloc: del: SYMBOL addr=0x8c780
3 rtl: alloc: new: OBJECT addr=0x8c7e8 size=132
4 rtl: linkmap_add
5 rtl: unresolv: global resolve
6
7 dlopen:
8 dlsym:
9 exception_base called
10 exception_dl: throwing

```

(continues on next page)

(continued from previous page)

```

11 terminate called after throwing an instance of 'std::runtime_error'
12 what(): exception_d1 throw

```

**Author:** Chris Johns 2016-11-22T21:26:11.000Z

Original author: sebastian.huber

This error is the expected result of the test. It does not pass. See [#2767](#) for the original issue that raised the problem.

**Author:** Trac Migrate 2016-11-23T06:04:02.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.797 2800 - qorIQ variants failing to build

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2800                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-11-02T16:19:23.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:powerpc, bsp, priority::normal, resolution::fixed, tickettype::defect, version::5                                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2800">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2800</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The following qorIQ variants fail to build:

powerpc-qorIQ\_core\_0 powerpc-qorIQ\_core\_1 powerpc-qorIQ\_p1020rdb

All fail with this error:

```

1 ../../../../../../qorIQ_core_0/lib/include/bsp/qorIQ.h:407:3: error:
  ↳ conflicting types for 'qorIQ_gpio'
2 } qorIQ_gpio;
3 ~~~~~
4 ../../../../../../qorIQ_core_0/lib/include/bsp/qorIQ.h:184:3: note: previous
  ↳ declaration of 'qorIQ_gpio' was here
5 } qorIQ_gpio;
6 ~~~~~

```

Found during full build sweep based on this commit:

```

1 commit bb9f09f34c9bdcf4d2631a1fd317bcefd8426efb
2 Author: Sebastian Huber <sebastian.huber@embedded-brains.de>
3 Date: Mon Oct 31 13:07:34 2016 +0100
4
5 posix: Fix timer interval
6
7 Do not overwrite timer interval with initial interval in
8 _POSIX_Timer_Insert().
9
10 Close #2798.

```

**Author:** Joel Sherrill 2016-11-02T22:13:42.000Z

Confirmed to still be broken on this commit:

```

1 commit 63e2ca1b8b0a651a733d4ac3e0517397d0681214
2 Author: Sebastian Huber <sebastian.huber@embedded-brains.de>
3 Date: Mon Oct 31 09:13:35 2016 +0100
4
5 score: Simplify yield and unblock scheduler ops
6
7 Update #2556.

```

**Author:** Trac Migrate 2016-11-07T08:32:09.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 6cb234f079527dfd52da7d5a12340408777e48ee:

bsp/qorIQ: Remove duplicate qorIQ\_gpio definition Close #2800.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.798 2798 - Fix POSIX timer interval

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2798                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-10-31T12:05:47.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::defect, version::5                                |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2798">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2798</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

See also:

<https://lists.rtems.org/pipermail/users/2016-October/030714.html>

```

1 Just back to RTEMS after a long time. I've build the last version (Git)
2 with last compiler (4.12) and looks like a simple POSIX timer doesn't
3 work anymore... It should display "Signal 14" every second but period is
4 veryyyy short...and display very fast :(
5
6 Any idea? any change in the way to use POSIX with RTEMS?
7
8 See my program attached (it works fine with Linux).
9
10 I have tested with Raspberry Pi and QEMU/i386.
11
12 thx by advance

```

**Author:** Trac Migrate 2016-10-31T12:37:33.000Z

Original author: sebastian.huber

In changeset 3e9f4c9232277079d11814e55af9bed11106bd04:

posix: Fix timeout handling in sigtimedwait() Update [#2798](#).

**Author:** Trac Migrate 2016-10-31T12:37:43.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In changeset bb9f09f34c9bdcf4d2631a1fd317bcefd8426efb:

posix: Fix timer interval Do not overwrite timer interval with initial interval in `_POSIX_Timer_Insert()`. Close [#2798](#).

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-05-11T07:31:02.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”4.12.0”

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-09T06:27:14.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.799 2797 - Add ability to add/remove processors to/from a scheduler instance

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2797                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-10-31T11:32:29.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, smp, tickettype::enhancement, version::5                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2797">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2797</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The scheduler configuration is done at link-time. In order to support run-time re-configuration add functions to `dd/remove` processors to/from a scheduler instance.

```

1 /**
2 * @brief Adds a processor the set of processors owned by the scheduler.
3 *
4 * Must be called from task context. This operation obtains and releases the
5 * objects allocator lock.
6 *
7 * @param[in] scheduler_id Identifier of the scheduler.

```

(continues on next page)



(continued from previous page)

```

8 * @param[in] cpu_index Index of the processor to add.
9 *
10 * @retval RTEMS_SUCCESSFUL Successful operation.
11 * @retval RTEMS_INVALID_ID Invalid scheduler identifier.
12 * @retval RTEMS_NOT_CONFIGURED The processor is not configured to be used by
13 *   the application.
14 * @retval RTEMS_INCORRECT_STATE The processor is configured to be used by
15 *   the application, however, it is not available.
16 */
17 rtems_status_code rtems_scheduler_add_processor(
18   rtems_id scheduler_id,
19   uint32_t cpu_index
20 );
21
22 /**
23 * @brief Removes a processor from set of processors owned by the scheduler.
24 *
25 * Must be called from task context. This operation obtains and releases the
26 * objects allocator lock. Removing a processor from a scheduler is a complex
27 * operation that involves all tasks in the system.
28 *
29 * @param[in] scheduler_id Identifier of the scheduler.
30 * @param[in] cpu_index Index of the processor to add.
31 *
32 * @retval RTEMS_SUCCESSFUL Successful operation.
33 * @retval RTEMS_INVALID_ID Invalid scheduler identifier.
34 * @retval RTEMS_INVALID_NUMBER The processor is not owned by the scheduler.
35 * @retval RTEMS_RESOURCE_IN_USE The set of processors owned by the scheduler
36 *   would be empty after the processor removal and there exists a non-idle
37 *   task that uses this scheduler as its home scheduler.
38 */
39 rtems_status_code rtems_scheduler_remove_processor(
40   rtems_id scheduler_id,
41   uint32_t cpu_index
42 );

```

**Author:** Trac Migrate 2016-11-10T08:59:39.000Z

Original author: sebastian.huber

In changeset 2612a0bf5b9f0105315d62cbacfa9d29a5caa4b5:

score: Simplify `_Scheduler_Get_by_id()` Avoid dead code in non-SMP configurations. Return scheduler identifier independent of the current processor count of the scheduler via `rtems_scheduler_ident()`, since this value may change during run-time. Check the processor count in `_Scheduler_Set()` under scheduler lock protection. Update [#2797](#).

**Author:** Trac Migrate 2016-11-10T08:59:58.000Z

Original author: sebastian.huber

In changeset 1c46b80329d5d099022d8c7e0a8c593845120729:

score: Add scheduler to per-CPU information This makes it possible to adjust the scheduler of a processor at run-time. Update [#2797](#).

---

**Author:** Trac Migrate 2016-11-10T09:00:18.000Z

---

Original author: sebastian.huber

In changeset e6107854b2511decef8c209cde14c4826a33ff01:

score: Rename \_Scheduler\_Assignments Rename \_Scheduler\_Assignments into \_Scheduler\_Initial\_assignments to make it clear that they may not reflect the run-time scheduler assignment. Update [#2797](#).

---

**Author:** Trac Migrate 2016-11-10T09:00:27.000Z

---

Original author: sebastian.huber

In changeset 1f5bee3d85405d42a7f35caf3ff0c190789afd60:

score: Add and use Thread\_Control::is\_idle Update [#2797](#).

---

**Author:** Trac Migrate 2016-11-10T09:00:37.000Z

---

Original author: sebastian.huber

In changeset 05ca53ddf6bc8333c2f3ad861c5415467c3262d2:

rtems: Add scheduler processor add/remove Update [#2797](#).

---

**Author:** Trac Migrate 2016-11-10T10:35:44.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[bcdca5db9d35138c9c97055b6e71621c451d9542/rtems-docs]

---

**Author:** Trac Migrate 2016-12-02T10:19:31.000Z

---

Original author: sebastian.huber

In changeset d10716f98f950348cf25df9097402987b6e219fc:

rtems: Fix rtems\_scheduler\_add\_processor() Fix thread dispatch profiling of rtems\_scheduler\_add\_processor(). Update [#2797](#).

---

**Author:** Trac Migrate 2016-12-02T10:52:04.000Z

---

Original author: sebastian.huber

In changeset 7da78cf637e5d039fd1e0aafd99b282626f9e266:

rtems: Use `_Thread_Dispatch_direct()` Update [#2797](#).

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from `%”4.12”` to `%”4.12.0”`

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from `%”4.12.0”` to `%”5.1”`

Milestone renamed

#### 4.2.1.800 2795 - Overrun Handling for general real-time models

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2795                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-10-08T11:49:04.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::high, resolution::fixed, rtems::score, tickettype::enhancement, version::4.11                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2795">https://gitlab.rtems.org/rtems/rtems/-/issues/2795</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: khchen

In the current implementation, if a task period is time out, the next call of `rtems_rate_monotonic_period()` will only release one following job and manipulate the task period with the calling moment + the next length of period. With the assumption that implicit/constraint deadline and hard real-time model, the above mechanism is okay.

However, it may not be applicable for general task models, e.g., soft real-time task, arbitrary deadline, mixed-criticality system [None..None](#). It is usually assumed that multiple task jobs of a task are executed in a first-come-first-serve manner. Thus, it is sufficient to release the second task job at the moment the first task job finishes according to a strictly periodic release pattern. The current design in fact shifts the release pattern of periodic/sporadic tasks. Since there maybe more than one postponed jobs due to the preemption, these postponed jobs that should be released are never released to the system.

Although there is no standard requirement in reality for deadline misses, with this enhancement, the postponed jobs will be released with the correct number without periodic release shifting. This way of handling is already widely considered in academia from 90s [2] until now [3] or even on multicores as well [4].

I refine the following four files and handle this requirement individually. The overhead seems to me negligible. `cpukit/rtems/include/rtems/rtems/ratemon.h`  
`cpukit/rtems/include/rtems/rtems/ratemonimpl.h` `cpukit/rtems/src/ratemontimeout.c`  
`cpukit/rtems/src/ratemonperiod.c` I have tested the enhancement on Qemu and Raspberry Pi Model B+ with corresponding BSPs.

I believe this patch as a basis is required for further use for more general real-time task models. This enhancement only affect those timeout cases without changing any behaviour in normal cases. This enhancement is accepted in workshop mixed-criticality (WMC 2016) along with RTSS'16 this year [5].

To demonstrate the differences, a heuristic example is prepared in test-suites/sptests/sprmsched01 to show the benefit of the enhancement: Given two tasks with implicit deadline that task deadline is equal to its period. Task 1 period is 10000 ticks, whereas task 2 is 2000 ticks. Task 1 has the execution time 6000 ticks, and task 2 has 1000 ticks. Assume Task 1 has a higher priority than task 2. Task 1 only executes 2 times. In the expected result, we can observe that the postponed jobs are continuously released till there is no postponed job left, and the task period will still keep as it is. (Job 3-7 in task 2 are postponed jobs)

[1] Buttazzo et al., Soft Real-Time Systems: Predictability vs. Efficiency, Springer 2005, <http://www.springer.com/gp/book/9780387237015> [2] Lehoczky et al., Fixed priority scheduling of periodic task sets with arbitrary deadlines, RTSS 1990, [http://ieeexplore.ieee.org/xpls/abs\\_all.jsp?arnumber=128748](http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=128748) [3] Georg von der Brüggen et al., Systems with Dynamic Real-Time Guarantees in Uncertain and Faulty Execution Environments, RTSS'16, accepted. [4] Huang et al., Response time bounds for sporadic arbitrary-deadline tasks under global fixed-priority scheduling on multiprocessors, RTNS 2015, <http://dl.acm.org/citation.cfm?doid=2597457.2597459> [5] Chen et al., Overrun Handling for Mixed-Criticality Support in RTEMS, WMC 2016, accepted.

- [patch.2.diff](#)
- [patch-1.diff](#)

**Author:** Trac Migrate 2016-10-08T11:56:50.000Z

Original author: khchen

- **Attachment** [patch-1.diff](#) added

Diff patch

**Author:** Trac Migrate 2016-10-12T06:01:30.000Z

Original author: khchen

In RTEMS the behaviour of the rate-monotonic periods depends on the scheduler. We have a fix-priority scheduler (default scheduler) and a job-level fixed-priority scheduler (EDF).

In your test case you have  $6000/10000 + 1000/2000 = 110\%$  processor utilization, so your task set is not schedulable.

In case of the default scheduler, the priority assignment is not according to the rules:

[https://docs.rtems.org/doc-current/share/rtems/html/c\\_user/Rate-Monotonic-Manager-Rate-Monotonic-Scheduling-Algorithm.html#Rate-Monotonic-Manager-Rate-Monotonic-Scheduling-Algorithm](https://docs.rtems.org/doc-current/share/rtems/html/c_user/Rate-Monotonic-Manager-Rate-Monotonic-Scheduling-Algorithm.html#Rate-Monotonic-Manager-Rate-Monotonic-Scheduling-Algorithm)

Task 2 has a shorter period compared to task 1, so it must have a higher priority.

What changes your patch? You automatically restart the watchdog in case of a timeout and count the number of timeouts?

**Author:** Trac Migrate 2016-10-12T08:04:20.000Z

Original author: khchen

Yes, as the utilization is over 100%, my test case has deadline misses definitely. However, the test case is designed on purpose to present what is the proper overrun handling within 30000 ticks. (Otherwise, domino effect will hide the enhancement in the worst case.) Please note that, **Task 1 only executes 2 times** in my test case. Let's only focus on the periodic behavior of task 2.

Please refer to my paper [5]: [<http://ls12-www.cs.tu-dortmund.de/daes/media/documents/publications/downloads/2016-wmc.pdf>] In the following examples, the time unit is 1000 ticks. (1 = 1000 ticks)

With the original design of overrun handing, there is only one postponed job and the release pattern is not periodic. As shown in Fig.2 (a) of [5], the arrival pattern from 16 is changed due to the lateness of the red job, by which the orange job and the following jobs are all released earlier.

With this enhancement, the behaviour of task 2 with the enhancement is shown in Fig. 2 (b) of [5]. The postponed jobs due to the execution of task 1 are marked red. The jobs postponed due to the execution of previous jobs of task 2 are marked orange. The yellow job is postponed due to the orange job in the same period but can still finish its execution on time.

In fact the example can be `_schedule_` if the system has dynamic real-time guarantees [3] for mixed-criticality system. Suppose that task 1 requires a full timing guarantee with the abnormal execution time  $C_{\{1,A\}} = 6$ , and the normal execution time  $C_{\{1,N\}} = 1$ . Task 2 is a timing tolerable task with  $C_{\{2,A\}} = C_{\{2,N\}} = 1$  as shown in Fig. 2 (c) of [5]. The second job of task 1 needs 6 time units for its execution time due to fault detection and recovery. We can see that after all the postponed jobs of task 2 are finished at 24, the release of task 2 turns back according to the original periodic pattern again. Since this example is a bit complicated for normal users, I didn't implement it in the example case.

In my patch. I automatically **restart the watchdog** in case of a timeout and **keep updating the number of postponed jobs** (increase). If the number of postponed jobs is not 0, the default scheduler will decrease the number of postponed jobs and release the postponed jobs accordingly. Please note that, **the deadline of watchdog is not updated by the job releasing unless the targeted task has no more postponed jobs.**

We all know that the schedulability researches always talking about WCET and the worst case rarely happens in reality. However the overrun handling is still useful to isolate the effect of the abrupt overrun without disturbing the other normal tasks.

---

**Author:** Trac Migrate 2016-10-12T08:12:43.000Z

---

Original author: khchen

Ok, I will have a closer look at your paper and the patch. However, I am on a business trip next week, so this will take at least two weeks.

Your patch changes the existing behaviour. We must decide if this is acceptable or if we need a new option, e.g. explicitly enable the watchdog restart plus counter.

---

**Author:** Trac Migrate 2016-10-12T08:25:49.000Z

---

Original author: khchen

Replying to [sebastian.huber](#):

Ok, I will have a closer look at your paper and the patch. However, I am on a business trip next week, so this will take at least two weeks. Thanks a lot.

Your patch changes the existing behaviour. We must decide if this is acceptable or if we need a new option, e.g. explicitly enable the watchdog restart plus counter. Yes, I know. We have discussed this in user mailing list before. Please let me know if there is anything I can do.

---

**Author:** Trac Migrate 2016-10-18T12:27:56.000Z

---

Original author: khchen

- **Attachment** [patch.2.diff](#) added

Hotfix some typos and some redundant code.

---

**Author:** Trac Migrate 2017-01-13T21:09:49.000Z

---

Original author: khchen

- **Owner** set to Gedare Bloom <[gedare@rtems.org](mailto:gedare@rtems.org)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset [cb2cbecefdc124b010aa9d8714856332e3e3a759](#):

classic: adjust names of RM postponed job functions closes [#2795](#)

---

**Author:** Trac Migrate 2017-01-23T09:11:05.000Z

---

Original author: khchen

Several tests fail now:

WARNING - log/sp20 did not appear to complete execution  
 WARNING - log/sp60 did not appear to complete execution  
 WARNING - log/sp69 did not appear to complete execution  
 WARNING - log/spcbssched03 did not appear to complete execution  
 WARNING - log/spedfsched02 did not appear to complete execution  
 WARNING - log/spedfsched04 did not appear to complete execution  
 WARNING - log/spintrcritical08 did not appear to complete execution  
 WARNING - log/spratemon\_err01 did not appear to complete execution  
 WARNING - log/sprmsched01 did not appear to complete execution

---

**Author:** Trac Migrate 2017-01-24T12:42:27.000Z

---

Original author: khchen

- **Milestone** changed from %"4.11.1" to %"4.12"
- **Resolution** ~"fixed" deleted
- **Status** changed from *closed* to *reopened*

---

**Author:** Trac Migrate 2017-01-24T12:43:11.000Z

---

Original author: khchen

There is a possible deadlock at SMP lock level:

<https://lists.rtems.org/pipermail/devel/2017-January/016754.html>

---

**Author:** Trac Migrate 2017-01-24T13:45:15.000Z

---

Original author: khchen

In changeset 1240aade5a35c4e8c43d5409e2329eeb6a173299:

rtems: Fix \_Rate\_monotonic\_Renew\_deadline() Make  
 \_Rate\_monotonic\_Renew\_deadline() static and use proper locking  
 in SMP configurations. Update #2795.

---

**Author:** Trac Migrate 2017-01-24T14:04:57.000Z

---

Original author: khchen

In changeset 625bd6aca47268bc21cfa38662ebc17413475e82:

rtems: Fix \_Rate\_monotonic\_Release\_postponed\_job() Use proper lock-  
 ing in SMP configurations. Update #2795.

**Author:** Trac Migrate 2017-01-24T14:05:50.000Z

Original author: khchen

In changeset b8d6eb719ad016b8e0a7752619a5004960b9711d:

rtems: rtems\_rate\_monotonic\_postponed\_job\_count() Use proper locking in SMP configurations. Update [#2795](#).

**Author:** Trac Migrate 2017-01-24T14:37:26.000Z

Original author: khchen

In changeset 29e08d41f42d68fdafba982061ea7a3d57f75731:

sptests/sprmsched01: Merge and fix Merge into one file and fix obvious problems (e.g. out of bounds array access). Update [#2795](#).

**Author:** Trac Migrate 2017-01-24T14:40:46.000Z

Original author: khchen

The output of sprmsched01 depends on the target timing:

```

1 *** BEGIN OF TEST SPRMSCHED 1 ***
2
3 Ticks per second in your system: 1000
4 Task 0 starts at tick 10.
5 Job 1 Task 0 ends at tick 6141.
6 Job 1 Task 1 starts at tick 6144.
7 Job 1 Task 1 ends at tick 7169.
8 Job 2 Task 1 starts at tick 8144.
9 Job 2 Task 1 ends at tick 9168.
10 Task 0 starts at tick 10009.
11 Job 2 Task 0 ends at tick 16140.
12 Job 3 Task 1 starts at tick 16145.
13 Job 3 Task 1 ends at tick 17169.
14 RTEMS_TIMEOUT
15 Job 4 Task 1 starts at tick 17172.
16 Job 4 Task 1 ends at tick 18196.
17 Job 5 Task 1 starts at tick 18199.
18 Job 5 Task 1 ends at tick 19223.
19 Job 6 Task 1 starts at tick 19226.
20 Job 6 Task 1 ends at tick 20250.
21 Job 7 Task 1 starts at tick 20253.
22 Job 7 Task 1 ends at tick 21277.
23 Job 8 Task 1 starts at tick 21280.
24 Job 8 Task 1 ends at tick 22304.
25 Job 9 Task 1 starts at tick 22307.
26 Job 9 Task 1 ends at tick 23331.
```

(continues on next page)



(continued from previous page)

```

27 RTEMS_SUCCESSFUL
28 Job 10 Task 1 starts at tick 24145.
29 Job 10 Task 1 ends at tick 25169.
30 Job 11 Task 1 starts at tick 26144.
31 Job 11 Task 1 ends at tick 27168.
32 Job 12 Task 1 starts at tick 28144.
33 Job 12 Task 1 ends at tick 29168.
34 *** END OF TEST SPRMSCHED 1 ***

```

Its not clear if the test objectives are checked. Why is `rtems_rate_monotonic_postponed_jobs_count()` not used at all?

**Author:** Trac Migrate 2017-01-24T14:46:59.000Z

Original author: khchen

Replying to [sebastian.huber](#):

The output of `sprmsched01` depends on the target timing: {{{ \* **BEGIN OF TEST SPRMSCHED 1** \* Ticks per second in your system: 1000 Task 0 starts at tick 10. Job 1 Task 0 ends at tick 6141. Job 1 Task 1 starts at tick 6144. Job 1 Task 1 ends at tick 7169. Job 2 Task 1 starts at tick 8144. Job 2 Task 1 ends at tick 9168. Task 0 starts at tick 10009. Job 2 Task 0 ends at tick 16140. Job 3 Task 1 starts at tick 16145. Job 3 Task 1 ends at tick 17169. RTEMS\_TIMEOUT Job 4 Task 1 starts at tick 17172. Job 4 Task 1 ends at tick 18196. Job 5 Task 1 starts at tick 18199. Job 5 Task 1 ends at tick 19223. Job 6 Task 1 starts at tick 19226. Job 6 Task 1 ends at tick 20250. Job 7 Task 1 starts at tick 20253. Job 7 Task 1 ends at tick 21277. Job 8 Task 1 starts at tick 21280. Job 8 Task 1 ends at tick 22304. Job 9 Task 1 starts at tick 22307. Job 9 Task 1 ends at tick 23331. RTEMS\_SUCCESSFUL Job 10 Task 1 starts at tick 24145. Job 10 Task 1 ends at tick 25169. Job 11 Task 1 starts at tick 26144. Job 11 Task 1 ends at tick 27168. Job 12 Task 1 starts at tick 28144. Job 12 Task 1 ends at tick 29168. \* **END OF TEST SPRMSCHED 1** \* }}} Its not clear if the test objectives are checked. Why is `rtems_rate_monotonic_postponed_jobs_count()` not used at all? That function I prepared is for the requirement from the application layer. It will not be used directly within the overrun handling. Since I only focused on the timing behaviors before, so I prepared this test without testing that.

Now I can add in the test and print out the number of postponed jobs.

**Author:** Trac Migrate 2017-01-24T14:53:07.000Z

Original author: khchen

The `rtems_rate_monotonic_postponed_jobs_count()` is not tested at all, see [#2885](#).

There is a potential integer overflow in `_Rate_monotonic_Renew_deadline()`. It should be documented what happens in this case.

---

**Author:** Trac Migrate 2017-01-24T15:07:46.000Z

---

Original author: khchen

How about the potential overflow for `uint32_t` variables “missed\_count” and “count” in `rtems_rate_monotonic_period_statistics`? I didn’t find related means in the current version. `stats->missed_count++` in `cpukit/rtems/src/ratemonperiod.c` could also incur this problem right?

The trivial solution is to add assertion to avoid this situation or shut down the system. . .

---

**Author:** Trac Migrate 2017-01-25T06:33:58.000Z

---

Original author: khchen

The missed count is just a statistic.

For the integer overflow in

```
1 static void _Rate_monotonic_Renew_deadline(  
2 Rate_monotonic_Control *the_period,  
3 Thread_Control          *owner,  
4 ISR_lock_Context        *lock_context  
5 )  
6 {  
7     uint64_t deadline;  
8  
9     ++the_period->postponed_jobs;  
10    the_period->state = RATE_MONOTONIC_EXPIRED;  
11  
12    deadline = _Watchdog_Per_CPU_insert_relative(  
13    &the_period->Timer,  
14    _Per_CPU_Get(),  
15    the_period->next_length  
16    );  
17    the_period->latest_deadline = deadline;  
18  
19    _Rate_monotonic_Release( the_period, lock_context );  
20 }
```

we have some options.

1. Ignore it, then postponed jobs count will be zero again.
2. Issue a new fatal error.
3. Saturate, e.g. stay at `0xffffffff`.

I am in favour of 3. It should be documented in any way.

---

**Author:** Trac Migrate 2017-01-25T07:33:32.000Z

---

Original author: khchen

The references mentioned in the ticket should be added to the documentation:

<https://git.rtems.org/rtems-docs/tree/common/refs.bib>

They should show up in the documentation somewhere:

[https://git.rtems.org/rtems-docs/tree/c-user/rate\\_monotonic\\_manager.rst](https://git.rtems.org/rtems-docs/tree/c-user/rate_monotonic_manager.rst)

The “Further Reading” should be changed to references.

---

**Author:** Trac Migrate 2017-01-25T08:30:40.000Z

---

Original author: khchen

I will set a precondition for saturating before ++the\_period->postponed\_jobs, and update the documentation.

---

**Author:** Trac Migrate 2017-01-25T10:17:14.000Z

---

Original author: khchen

In changeset 23a11b68cdba71ae34fe1b2271606b167eb6a5b4:

sptestests/spedfsched04: Merge and fix Merge into one file and fix obvious problems (e.g. out of bounds array access). Update [#2795](#).

---

**Author:** Trac Migrate 2017-01-26T09:01:03.000Z

---

Original author: khchen

In changeset d7feb8677d48162bf8db34406c232e0179d43dc6:

Remove rtems\_rate\_monotonic\_postponed\_job\_count() Add a variable named “count” in rtems\_rate\_monotonic\_period\_status structure. Re-visit rtems\_rate\_monotonic\_get\_status() for the postponed job count. sptestests/sp69: Add in the verification of the postponed job count for rtems\_rate\_monotonic\_get\_status(). Update [#2795](#).

---

**Author:** Trac Migrate 2017-01-30T07:12:14.000Z

---

Original author: khchen

[c660173fa4aed11c12403e359248eee59c5b5a01/rtems-docs]

---

**Author:** Trac Migrate 2017-01-30T07:15:11.000Z

---

Original author: khchen

The tests sprmsched01 and spedfsched01 should use rtems\_rate\_monotonic\_get\_status() to check that the postponed\_jobs\_count has the expected value.

Ideally, the test output should be independent of the target timing and console driver.

---

**Author:** Trac Migrate 2017-01-30T10:03:29.000Z

---

Original author: khchen

Replying to [sebastian.huber](#):

The tests `sprmsched01` and `spedfsched01` should use `rtems_rate_monotonic_get_status()` to check that the postponed\_jobs\_count has the expected value. Ideally, the test output should be independent of the target timing and console driver. Okay, I will fix them. Before the examples were prepared for showing the diagrams on the paper. I will use only assertions and `rtems_rate_monotonic_get_status()` to check the expected value of postponed jobs instead of showing the whole simulated executions.

---

**Author:** Trac Migrate 2017-01-31T06:20:41.000Z

---

Original author: khchen

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

In changeset 166a9f67cde9085a74d6d5d962160b3c92b3e3d7:

`sprmsched01/spedfsched04`: Revise Instead of using the target time and console driver, both tests now use assertions and `rtems_rate_monotonic_get_status()` to verify the count of postponed jobs. The setting of `spedfsched04` is slightly changed. Close [#2795](#).

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: khchen

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: khchen

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.801 2790 - Linker sets broken with GCC 7

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2790                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-09-23T05:41:32.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2790">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2790</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

See also:

<https://gcc.gnu.org/ml/gcc/2016-09/msg00114.html>

The

```
define MAKEGCCNOTKNOWTHEADDRESS(ptr) asm(“.”+r”(ptr))
```

is probably the best option. It works probably also with link-time optimization.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2016-10-12T09:13:53.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

In changeset be573185e6d6ddafdd3612c7c2db04aa0f65a330:

score: More robust linker sets Update [#2408](#). Update [#2790](#).

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2016-10-13T05:15:45.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In changeset f5eff007a44ad20c2a420b66903508e9d6c3b066:

score: Rename RTEMS\_OBFUSCATE\_POINTER() The inline asm construct works for everything which fits into a register. Close [#2790](#).

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2016-12-06T11:03:23.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

In changeset 4b579c5f5170e1fb6a0573729444c289643b7d84:

score: Simplify linker set API Resurrect  
 RTEMS\_LINKER\_SET\_BEGIN() and RTEMS\_LINKER\_SET\_END().  
 Add new macros RTEMS\_LINKER\_SET\_ITEM\_COUNT(),  
 RTEMS\_LINKER\_SET\_IS\_EMPTY(), and RTEMS\_LINKER\_SET\_FOREACH().  
 Remove confusing RTEMS\_LINKER\_SET\_ASSIGN\_BEGIN()  
 and RTEMS\_LINKER\_SET\_ASSIGN\_END(). Fix  
 RTEMS\_LINKER\_SET\_SIZE() to return the size in characters as  
 specified by the documentation. Update #2408. Update #2790.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.802 2788 - RTEMS I2C API only defines Standard-mode (Sm) speed as a default.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2788                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2016-09-21T00:54:54.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::wontfix, rtems::score, ticket-type::enhancement, version::4.10                                  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2788">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2788</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The RTEMS I2C API as defined in cpukit/dev/include/dev/i2c/i2c.h only defines the bus speed as Standard-mode (Sm) as defined by the I2C standard. This is set as I2C\_BUS\_CLOCK\_DEFAULT. The default speed is defined by the hardware, ie the devices connected, and not this API.

The API should define the speeds as defined in the I2C standard and there should be no default. Drivers like the Cadence driver for the Zynq should be modified to require the bus speed be provided and all future drivers need to provide the speed.

**Author:** Trac Migrate 2016-09-21T08:19:21.000Z

The `cpukit/dev/include/dev/i2c/i2c.h` is an I2C bus implementation header file not a part of the user API (`<linux/i2c.h>` and `<linux/i2c-dev.h>`). A driver must have an initial speed. The `I2C_BUS_CLOCK_DEFAULT` is the recommended initial speed.

**Author:** Chris Johns 2016-09-21T08:21:58.000Z

A driver's initial speed needs to match the hardware. There is nothing that can be recommended. It requires analysis and a real value.

**Author:** Trac Migrate 2016-09-21T08:28:57.000Z

Ok, the set clock IO control is not part of the Linux user-space API. You can set it via the RTEMS specific `I2C_BUS_SET_CLOCK` IO control.

It is up to the application/board initialization code to set the right speed for a particular I2C bus. The generic I2C bus driver cannot and should not know this. They have to choose an arbitrary initial value.

**Author:** Chris Johns 2016-09-21T22:38:07.000Z

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

Replying to [sebastian.huber](#):

Ok, the set clock IO control is not part of the Linux user-space API. You can set it via the RTEMS specific `I2C_BUS_SET_CLOCK` IO control.

I did not pick up this interface to control the clock speed.

This approach fits with the Xilinx AXI I2C controller where the bus speed is best handled by the IP integrator placing the IP into the FPGA. There is no point having software control the clock speed, the FPGA needs to do this. In this case setting the clock speed will fail, which is the default.

Thanks.

**Author:** Trac Migrate 2016-09-27T05:36:27.000Z

There is an I2C bus driver handler for the clock setting. You can return an error code, if the user wants an unavailable clock frequency:

```

1 /**
2  * @brief Sets the bus clock.
3  *
4  * @param[in] bus The bus control.
5  * @param[in] clock The desired bus clock in Hz.
6  *
7  * @retval 0 Successful operation.
8  * @retval negative Negative error number in case of an error.

```

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```

9 */
10 int (*set_clock)(i2c_bus *bus, unsigned long clock);

```

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.803 2784 - Add function to get the current priority of a task by scheduler instance

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2784                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-09-08T12:44:55.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, smp, tickettype::enhancement, version::5                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2784">https://gitlab.rtems.org/rtems/rtems/-/issues/2784</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

```

1 /**
2 * @brief Gets the current priority of the specified task with respect to the
3 * specified scheduler instance.
4 *
5 * The current priority reflects temporary priority adjustments due to locking
6 * protocols, the rate-monotonic objects on some schedulers and other
7 * mechanisms.
8 *
9 * @param[in] task_id Identifier of the task. Use @ref RTEMS_SELF to select
10 * the executing task.
11 * @param[in] scheduler_id Identifier of the scheduler instance.
12 * @param[out] priority Returns the current priority of the specified task with
13 * respect to the specified scheduler instance.
14 *
15 * @retval RTEMS_SUCCESSFUL Successful operation.
16 * @retval RTEMS_ILLEGAL_ON_REMOTE_OBJECT Directive is illegal on remote tasks.
17 * @retval RTEMS_INVALID_ADDRESS The priority parameter is @c NULL.

```

(continues on next page)



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```

18 * @retval RTEMS_INVALID_ID Invalid task or scheduler identifier.
19 * @retval RTEMS_NOT_DEFINED The task has no priority within the specified
20 *   scheduler instance.
21 *
22 * @see rtems_scheduler_ident().
23 */
24 rtems_status_code rtems_task_get_priority(
25   rtems_id          task_id,
26   rtems_id          scheduler_id,
27   rtems_task_priority *priority
28 );

```

**Author:** Trac Migrate 2016-09-21T07:06:34.000Z

Original author: sebastian.huber

In changeset 8123cae864579219e5003a67b451ca4cc07d998b:

rtems: Add rtems\_task\_get\_priority() Update [#2556](#). Update [#2784](#).

**Author:** Trac Migrate 2016-12-19T13:34:32.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[3be5dd685cd8baa634b9de068b778d5ecd89ae0e/rtems-docs]

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.804 2777 - Remove librtms++

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2777                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2016-08-10T02:17:40.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2777">https://gitlab.rtems.org/rtems/rtems/-/issues/2777</a> |
| <b>Merges</b>      | 0                                                                                                                   |

This is old and there are better design patterns for threading and C++. We recommend you use the new C++ standards based support.

**Author:** Trac Migrate 2016-08-11T07:26:43.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 03c1038edbe9b01a72d4775dcb6ffc1a03193a0c:

librtms++: Remove from RTEMS. This is old and there are better design patterns for threading and C++. We recommend you use the new C++ standards based support. Closes [#2777](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.805 2776 - SPI Framework

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2776                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-08-09T07:42:09.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2776">https://gitlab.rtems.org/rtems/rtems/-/issues/2776</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: AlexKrEB

Development of a SPI framework which shall be used for further SPI bus and device drivers. The framework shall be developed using the i2c framework as a template. It shall export the Linux Userspace SPI API.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2016-09-16T12:01:46.000Z |
|------------------------------------------------------|

Original author: AlexKrEB

In changeset a42be52bbf2b3a549d4b9635a5a93215dacd0657:

Add SPI bus framework User API is compatible to Linux userspace API.  
New test libtests/spi01. Update [#2776](#).

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2016-09-16T12:02:20.000Z |
|------------------------------------------------------|

Original author: AlexKrEB

Update of BSP manual is missing.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2016-12-23T13:41:47.000Z |
|------------------------------------------------------|

Original author: AlexKrEB

[0cb2748a11ecdb96a40a60a3039dad99da2937/rtems-docs]

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2016-12-23T13:42:00.000Z |
|------------------------------------------------------|

Original author: AlexKrEB

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: AlexKrEB

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: AlexKrEB

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.806 2771 - Empty C++ file with just <rtems.h> does not compile with HEAD.

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2771                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-08-04T00:20:12.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::highest, resolution::wontfix, rtems::score, tickettype::defect, version::5                                |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2771">https://gitlab.rtems.org/rtems/rtems/-/issues/2771</a> |
| <b>Merges</b>      | 0                                                                                                                   |

I have an application that does not build.

The following C++ file:

```
1 $ cat t1.cpp
2 #include <rtems.h>
```

does not compile with git head 5fe6d07ad5690e3d9c6445ca3a465a700a5a5015 on Zynq ARM.  
Build with:

```
1 $ /opt/work/rtems/4.12/bin/arm-rtems4.12-g++ \\  
2 -B/opt/work/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib \\  
3 -B/opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib \\  
4 -specs bsp_specs -qrtems \\  
5 -march=armv7-a -mthumb -mfpu=neon -mfloat-abi=hard -mtune=cortex-a9 \\  
6 -g -O2 -DNDEBUG -std=c++11 \\  
7 -Werror -Wall -Wextra \\  
8 -o t1.o \\  
9 -c t1.cpp
```

Some (too much to post) of the output is:

```

1 In file included from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/
  ↳ lib/include/rtems/score/thread.h:36:0,
2 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
  ↳ score/heap.h:22,
3 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
  ↳ rtems/types.h:26,
4 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems.
  ↳ h:31,
5 from t1.cpp:1:
6 /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/
  ↳ timestamp.h: In function 'void _Timestamp_Set(Timestamp_Control*, time_t, long_
  ↳ int)':
7 /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/
  ↳ timestamp.h:78:33: error: 'timespec2bintime' was not declared in this scope
8 timespec2bintime( &_ts, _time );
9 ^
10 /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/
  ↳ timestamp.h: In function 'void _Timestamp_Set_to_zero(Timestamp_Control*)':
11 /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/score/
  ↳ timestamp.h:94:8: error: invalid use of incomplete type 'Timestamp_Control {aka_
  ↳ struct bintime}'
12 _time->sec = 0;
13 ^~
14 In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/time.h:299:0,
15 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
  ↳ score/timestamp.h:43,
16 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
  ↳ score/thread.h:36,
17 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
  ↳ score/heap.h:22,
18 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems/
  ↳ rtems/types.h:26,
19 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/rtems.
  ↳ h:31,
20 from t1.cpp:1:
21 /opt/work/rtems/4.12/arm-rtems4.12/include/machine/_time.h:40:15: note: forward_
  ↳ declaration of 'Timestamp_Control {aka struct bintime}'
22 extern struct bintime _Timecounter_Boottimebin;
23 ^~~~~~

```

If 'std=c++11' is removed or replaced with 'std=gnu++11' the error becomes:

```

1 arm-rtems4.12-g++: fatal error: /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_
  ↳ zynq_zc706/lib/bsp_specs: attempt to rename spec 'endfile' to already defined_
  ↳ spec 'old_endfile'

```

**Author:** Chris Johns 2016-08-04T00:22:19.000Z

- Description changed

```

1 I have an application that does not build.
2
3 The following C++ file:
4
5 {{{
6 $ cat t1.cpp
7 #include <rtems.h>
8 }}}
9
10 does not compile with git head 5fe6d07ad5690e3d9c6445ca3a465a700a5a5015_
   ↪ on Zynq ARM. Build with:
11
12 {{{
13 $ /opt/work/rtems/4.12/bin/arm-rtems4.12-g++ \
14 -B/opt/work/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib \
15 -B/opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib \
16 -specs bsp_specs -qrtems \
17 -march=armv7-a -mthumb -mfpu=neon -mfloat-abi=hard -mtune=cortex-a9 \
18 -g -O2 -DNDEBUG -std=c++11 \
19 -Werror -Wall -Wextra \
20 -o t1.o \
21 -c t1.cpp
22 }}}
23
24 Some (too much to post) of the output is:
25
26 {{{
27 In file included from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_
   ↪ zynq_zc706/lib/include/rtems/score/thread.h:36:0,
28 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/
   ↪ include/rtems/score/heap.h:22,
29 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/
   ↪ include/rtems/rtems/types.h:26,
30 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/
   ↪ include/rtems.h:31,
31 from t1.cpp:1:
32 /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/
   ↪ rtems/score/timestamp.h: In function 'void _Timestamp_Set(Timestamp_
   ↪ Control*, time_t, long int)':
33 /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/
   ↪ rtems/score/timestamp.h:78:33: error: 'timespec2bintime' was not_
   ↪ declared in this scope
34 timespec2bintime( &_ts, _time );
35 ^
36 /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/
   ↪ rtems/score/timestamp.h: In function 'void _Timestamp_Set_to_
   ↪ zero(Timestamp_Control*)':
37 - /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/
   ↪ rtems/score/timestamp.h:94:8: error: invalid use of incomplete type
   ↪ 'Timestamp_Control {aka struct bintime}'

```

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```

38 ?          ^
39
40 + /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/include/
   ↳ rtems/score/timestamp.h:94:8: error: invalid use of incomplete type
   ↳ 'Timestamp_Control {aka struct bintime}'
41 ?          + ^^
42
43 _time->sec = 0;
44 ^~
45 In file included from /opt/work/rtems/4.12/arm-rtems4.12/include/sys/
   ↳ time.h:299:0,
46 -          from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_
   ↳ zynq_zc706/lib/include/rtems/score/timestamp.h:43,
47 ?          ^
48
49 +          from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_
   ↳ zynq_zc706/lib/include/rtems/score/timestamp.h:43,
50 ?          + ^^
51
52 -          from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_
   ↳ zynq_zc706/lib/include/rtems/score/thread.h:36,
53 ?          ^
54
55 +          from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_
   ↳ zynq_zc706/lib/include/rtems/score/thread.h:36,
56 ?          + ^^
57
58 -          from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_
   ↳ zynq_zc706/lib/include/rtems/score/heap.h:22,
59 ?          ^
60
61 +          from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_
   ↳ zynq_zc706/lib/include/rtems/score/heap.h:22,
62 ?          + ^^
63
64 -          from /opt/work/si/rtems/4.12/arm-rtems4.12/xilinx_
   ↳ zynq_zc706/lib/include/rtems/rtems/types.h:26,
65 ?          ^
66
67 +          from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_
   ↳ zynq_zc706/lib/include/rtems/rtems/types.h:26,
68 ?          + ^^
69
70 from /opt/work/bsps/rtems/4.12/arm-rtems4.12/xilinx_zynq_zc706/lib/
   ↳ include/rtems.h:31,
71 from t1.cpp:1:
72 /opt/work/rtems/4.12/arm-rtems4.12/include/machine/_time.h:40:15: note: _
   ↳ forward declaration of 'Timestamp_Control {aka struct bintime}'
73 extern struct bintime _Timecounter_Boottimebin;

```

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```

74 ^~~~~~
75 }}}
76
77 If '-std=c++11' is removed or replaced with '-std=gnu++11' the error_
78 ↪ becomes:
79 {{{
80 arm-rtems4.12-g++: fatal error: /opt/work/bsps/rtems/4.12/arm-rtems4.12/
81 ↪ xilinx_zynq_zc706/lib/bsp_specs: attempt to rename spec 'endfile' to_
82 ↪ already defined spec 'old_endfile'
83 }}}

```

**Author:** Chris Johns 2016-08-04T00:23:37.000Z

- **Summary** changed from *Empty C++ file does not compile with HEAD.* to *Empty C++ file with just <rtems.h> does not compile with HEAD.*

**Author:** Trac Migrate 2016-08-04T05:19:19.000Z

I cannot reproduce this problem. The C++ tests build fine.

**Author:** Chris Johns 2016-08-04T05:33:46.000Z

Replying to [sebastian.huber](#):

I cannot reproduce this problem.

Is this your build or the RSB?

The C++ tests build fine.

Which tests?

**Author:** Trac Migrate 2016-08-04T05:40:29.000Z

Replying to [chrisj](#):

Replying to [sebastian.huber](#):

I cannot reproduce this problem.

Is this your build or the RSB?

```

arm-rtems4.12-g++      -version      arm-rtems4.12-g++
(GCC)      6.1.1      20160609      (RTEMS      4.12,      RSB
c476de6150f39afdf142c6f4420c59ba2f1aa2fe, Newlib 2.4.0.20160527)

```

The C++ tests build fine.

Which tests?

For example the iostream test (`--enable-tests --enable-cxx`).



---

**Author:** Chris Johns 2016-08-04T05:50:55.000Z

---

I have:

arm-rtems4.12-g++ (GCC) 6.1.1 20160609 (RTEMS 4.12, RSB  
cac72a2aea711f671816d7c41bb1cfe66d54ee37, Newlib 2.4.0.20160527)

and the tests build OK as well. The problem still exists.

---

**Author:** Trac Migrate 2016-08-04T05:54:46.000Z

---

I guess it is a problem with your local BSP/RTEMS installation or command line.  
Do you have a double “-specs bsp\_specs” for example? You must specify the specs  
exactly once on the command line.

---

**Author:** Chris Johns 2016-08-04T05:56:02.000Z

---

The second issue with the bsp\_specs was a command issue where it was not being  
shown correctly on the terminal. The first issue exists. I will update a .i file.

---

**Author:** Trac Migrate 2016-08-04T05:59:24.000Z

---

The <rtems.h> uses BSD extensions, e.g. struct bintime, thus it doesn't work with  
-std=c++11.

The main problem is that <rtems.h> includes way too many implementation de-  
tails.

---

**Author:** Chris Johns 2016-08-04T06:00:11.000Z

---

Ah ok this is the problem. Is this something that needs to be fixed?

---

**Author:** Trac Migrate 2016-08-04T06:03:08.000Z

---

Yes, but it has very low priority for me. It's probably something for the new-build-  
system era.

---

**Author:** Chris Johns 2016-08-04T06:04:59.000Z

---

- **Resolution** set to ~”wontfix”
- **Status** changed from *new* to *closed*

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %”4.12” to %”4.12.0”

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.807 2770 - Missing documentation for RTEMS\_LINKER\_ROSET\_CONTENT and RTEMS\_LINKER\_RWSET\_CONTENT

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2770                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-08-02T06:33:35.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | doc, priority::normal, resolution::fixed, tickettype::enhancement, version::5                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2770">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2770</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: Christian Mauderer

Currently the two macros

RTEMS\_LINKER\_ROSET\_CONTENT RTEMS\_LINKER\_RWSET\_CONTENT

are not documented. This should be added as soon as the doc repo is ready for it.

The macros have been introduced in this commit:

<https://git.rtems.org/rtems/commit/?id=5fe6d07ad5690e3d9c6445ca3a465a700a5a5015>

---

**Author:** Trac Migrate 2017-02-15T14:08:13.000Z

---

Original author: Christian Mauderer

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

[3b9b8a004c5e92f95007036cc7475125450014bb/rtems-docs]

---

**Author:** Trac Migrate 2017-02-15T14:33:26.000Z

---

Original author: Christian Mauderer

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: Christian Mauderer

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: Christian Mauderer

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.808 2768 - untar does not keep permissions correctly.

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2768                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2016-08-01T00:13:50.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2768">https://gitlab.rtems.org/rtems/rtems/-/issues/2768</a> |
| <b>Merges</b>      | 0                                                                                                                   |

On disk I have 'x' with:

```
1 $ ls -las x
2 4 -rwxr-xr-x 1 chris caeng 48 Jul 14 11:46 x
```

the tar file shows:

```
1 $ tar tvf rootfs.tar
2 -rwxr-xr-x 0 chris caeng 48 Jul 14 11:46 x
```

and in the IMFS it shows:

```
1 [/] # ls -las x
2 0 -rw-r--r-- 1 root root 48 Jan 1 00:00 x
```

The makes adding 'joel' scripts difficult.

**Author:** Trac Migrate 2016-08-09T07:24:19.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset b0f08c83e23e69c7b19b04d38910f90b5f7af51b:

libmisc/untar: Set the perms to the value in the tar file. This patch parses the mode field in the tar header and sets the directory or file to the mode value in the header. Closes [#2768](#).

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.809 2765 - Application level deadlocks may lead to SMP lock level deadlocks

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2765                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-07-25T12:17:27.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | cpukit, priority::normal, resolution::fixed, rtems::score, smp, ticket-type::defect, version::4.10, version::4.11   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2765">https://gitlab.rtems.org/rtems/rtems/-/issues/2765</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Due to a missing deadlock detection application level deadlocks may lead to SMP lock level deadlocks.

---

**Author:** Trac Migrate 2016-07-25T12:18:48.000Z

---

Original author: sebastian.huber

In changeset 57a00bc6afd25f5c41006b386627d087ff9d4c66:

smptests/smpmutex02: New test Update [#2765](#).

---

**Author:** Trac Migrate 2016-07-25T12:20:41.000Z

---

Original author: sebastian.huber

- **Version** changed from ~"4.10" to ~"4.11"

---

**Author:** Trac Migrate 2016-07-27T08:56:15.000Z

---

Original author: sebastian.huber

In changeset f4d1f307926b6319e5d3b325dbe424901285dec1:

score: Split `_Thread_Change_priority()` Update [#2412](#). Update [#2556](#).  
Update [#2765](#).

---

**Author:** Trac Migrate 2016-07-27T08:56:26.000Z

---

Original author: sebastian.huber

In changeset ac8402ddd6e4a8eb6defb98220d39d4c20a6f025:

score: Simplify `_Thread_queue_Boost_priority()` Raise the priority under thread queue lock protection and omit the superfluous thread queue priority change, since the thread is extracted anyway. The unblock operation will pick up the new priority. Update [#2412](#). Update [#2556](#).  
Update [#2765](#).

---

**Author:** Trac Migrate 2016-07-27T08:56:36.000Z

---

Original author: sebastian.huber

In changeset 3a58dc863157bb21054a144c1a21b690544c0d23:

score: Priority inherit thread queue operations Move the priority change due to priority interitance to the thread queue enqueue operation to simplify the locking on SMP configurations. Update [#2412](#). Update [#2556](#). Update [#2765](#).

---

**Author:** Trac Migrate 2016-07-27T08:56:46.000Z

---

Original author: sebastian.huber

In changeset 1fcac5adc5ed38fb88ce4c6d24b2ca2e27e3cd10:

score: Turn thread lock into thread wait lock The `_Thread_Lock_acquire()` function had a potentially infinite run-time due to the lack of fairness at atomic operations level. Update [#2412](#).  
Update [#2556](#). Update [#2765](#).

---

**Author:** Trac Migrate 2016-07-27T08:56:57.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset d79df38c2bea50112214ade95776cb90d693e390:

score: Add deadlock detection The mutex objects use the owner field of the thread queues for the mutex owner. Use this and add a deadlock detection to `_Thread_queue_Enqueue_critical()` for thread queues with an owner. Update [#2412](#). Update [#2556](#). Close [#2765](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from `%”4.12”` to `%”4.12.0”`

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from `%”4.12.0”` to `%”5.1”`

Milestone renamed

#### 4.2.1.810 2752 - Relax execution enviroment for thread begin extensions

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2752                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-07-04T11:58:12.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::high, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::4.10                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2752">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2752</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Currently, the thread begin extensions are invoked with thread dispatching disabled. There is an explanation for this in the code

```

1 /*
2  * Take care that 'begin' extensions get to complete before
3  * 'switch' extensions can run. This means must keep dispatch
4  * disabled until all 'begin' extensions complete.
5  */
6 _User_extensions_Thread_begin( executing );

```

However, the switch extension is always invoked before the thread begin extension for all threads except the initialization thread. A thread dispatch disabled contexts drastically limits the work which can be carried out in the thread begin extensions. It is for example not possible to call `malloc()`, create POSIX keys or access C++ thread local storage.

The thread begin extension should execute in a normal thread context. Thread begin extensions that are disturbed by a thread dispatch should deal with this locally.

With the availability of C++ thread local storage in RTEMS being able to pre-initialize such objects in the thread begin extension would be quite handy.

---

**Author:** Trac Migrate 2016-07-25T06:40:43.000Z

---

Original author: sebastian.huber

In changeset 0fd6f25507fbea5f4892b71b58837cdda17856b4:

score: Relax thread begin extension environment Update [#2752](#).

---

**Author:** Trac Migrate 2016-12-23T14:10:09.000Z

---

Original author: sebastian.huber

- **Priority** changed from ~"normal" to ~"high"

---

**Author:** Trac Migrate 2017-01-27T06:25:20.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[b1e3b75e907db0f448610f18c5e11dd1ee9448b2/rtems-docs]

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.811 2750 - Compile Error When Multiprocessing Enabled

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2750                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-06-30T14:00:49.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2750">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2750</a> |
| <b>Merges</b>      | 0                                                                                                                             |

This should impact every BSP with multiprocessing enabled but I saw it on the sparc/leon3 and powerpc/psim

```
../..cpukit/../../psim/lib/include/rtems/score/defs.h:229:5: error: static
assertion failed: "Message_queue_MP_Packet" _Static_assert(cond, # msg) ^
../..cpukit/../../rtems/c/src/../../cpukit/rtems/src/msgmp.c:28:1: note: in expansion of
macro 'RTEMS_STATIC_ASSERT' RTEMS_STATIC_ASSERT(
```

**Author:** Trac Migrate 2016-07-01T09:59:05.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 4cb13c399827a39a9108a631e6afddf6d96de60c:

score: Fix MPCIE message layout Restore the 32-bit priority field in MP\_packet\_Prefix. Bug introduced by 254dc82daf8cbd6922376fcbb81c31e21cbf4d16. Close #2750.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed



## 4.2.1.812 2749 - rtems\_task\_set\_scheduler() has insufficient parameters

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2749                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-06-30T11:12:19.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, smp, tickettype::defect, version::4.11                                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2749">https://gitlab.rtems.org/rtems/rtems/-/issues/2749</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Task priorities are only valid within a scheduler instance. The `rtems_task_set_scheduler()` directive moves a task from one scheduler instance to another using the current priority of the thread. However, the current task priority of the source scheduler instance is undefined in the target scheduler instance. Add a third parameter to specify the priority.

```

1 /**
2  * @brief Sets the scheduler instance of a task.
3  *
4  * Initially, the scheduler instance of a task is set to the scheduler instance
5  * of the task that created it. This directive allows to move a task from its
6  * current scheduler instance to another specified by the scheduler identifier.
7  *
8  * @param[in] task_id Identifier of the task. Use @ref RTEMS_SELF to select
9  *   the executing task.
10 * @param[in] scheduler_id Identifier of the scheduler instance.
11 * @param[in] priority The task priority with respect to the new scheduler
12 *   instance. The real and initial priority of the task is set to this value.
13 *   The initial priority is used by rtems_task_restart() for example.
14 *
15 * @retval RTEMS_SUCCESSFUL Successful operation.
16 * @retval RTEMS_ILLEGAL_ON_REMOTE_OBJECT Directive is illegal on remote tasks.
17 * @retval RTEMS_INVALID_ID Invalid task or scheduler identifier.
18 * @retval RTEMS_INVALID_PRIORITY Invalid priority.
19 * @retval RTEMS_RESOURCE_IN_USE The task owns resources which deny a scheduler
20 *   change.
21 *
22 * @see rtems_scheduler_ident().
23 */
24 rtems_status_code rtems_task_set_scheduler(
25   rtems_id          task_id,
26   rtems_id          scheduler_id,
27   rtems_task_priority priority
28 );

```

**Author:** Trac Migrate 2016-06-30T11:35:31.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 Task priorities are only valid within a scheduler instance. The rtems_
  ↳task_set_scheduler() directive moves a task from one scheduler_
  ↳instance to another using the current priority of the thread. However,
  ↳the current task priority of the source scheduler instance is_
  ↳undefined in the target scheduler instance. Add a third parameter to_
  ↳specify the priority.
2
3 {{{
4 /**
5  * @brief Sets the scheduler instance of a task.
6  *
7  * Initially, the scheduler instance of a task is set to the scheduler_
  ↳instance
8  * of the task that created it. This directive allows to move a task_
  ↳from its
9  * current scheduler instance to another specified by the scheduler_
  ↳identifier.
10 *
11 * @param[in] task_id Identifier of the task. Use @ref RTEMS_SELF to_
  ↳select
12 * the executing task.
13 * @param[in] scheduler_id Identifier of the scheduler instance.
14 * @param[in] priority The task priority with respect to the new_
  ↳scheduler
15 * instance. The real and initial priority of the task is set to this_
  ↳value.
16 * The initial priority is used by rtems_task_restart() for example.
17 *
18 * @retval RTEMS_SUCCESSFUL Successful operation.
19 * @retval RTEMS_ILLEGAL_ON_REMOTE_OBJECT Directive is illegal on remote_
  ↳tasks.
20 - * @retval RTEMS_INCORRECT_STATE The task is in a state that forbids a
21 + * @retval RTEMS_INCORRECT_STATE The current scheduler instance is_
  ↳the target
22 - * scheduler change.
23 ?          ^ ^ ^
24
25 + * scheduler instance.
26 ?          ^ ^ ^ ^ ^
27
28 * @retval RTEMS_INVALID_ID Invalid task or scheduler identifier.
29 * @retval RTEMS_INVALID_PRIORITY Invalid priority.

```

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```

30 + * @retval RTEMS_RESOURCE_IN_USE The task owns resources which deny a
    ↪ scheduler
31 + * change.
32 *
33 * @see rtems_scheduler_ident().
34 */
35 rtems_status_code rtems_task_set_scheduler(
36 rtems_id          task_id,
37 rtems_id          scheduler_id,
38 rtems_task_priority priority
39 );
40 }}}

```

**Author:** Trac Migrate 2016-07-01T09:57:39.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 Task priorities are only valid within a scheduler instance. The rtems_
  ↪ task_set_scheduler() directive moves a task from one scheduler_
  ↪ instance to another using the current priority of the thread. However,
  ↪ the current task priority of the source scheduler instance is_
  ↪ undefined in the target scheduler instance. Add a third parameter to_
  ↪ specify the priority.
2
3 {{{
4 /**
5 * @brief Sets the scheduler instance of a task.
6 *
7 * Initially, the scheduler instance of a task is set to the scheduler_
  ↪ instance
8 * of the task that created it. This directive allows to move a task_
  ↪ from its
9 * current scheduler instance to another specified by the scheduler_
  ↪ identifier.
10 *
11 * @param[in] task_id Identifier of the task. Use @ref RTEMS_SELF to_
  ↪ select
12 * the executing task.
13 * @param[in] scheduler_id Identifier of the scheduler instance.
14 * @param[in] priority The task priority with respect to the new_
  ↪ scheduler
15 * instance. The real and initial priority of the task is set to this_
  ↪ value.
16 * The initial priority is used by rtems_task_restart() for example.
17 *

```

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```

18 * @retval RTEMS_SUCCESSFUL Successful operation.
19 * @retval RTEMS_ILLEGAL_ON_REMOTE_OBJECT Directive is illegal on remote_
    ↳ tasks.
20 - * @retval RTEMS_INCORRECT_STATE The current scheduler instance is_
    ↳ the target
21 - * scheduler instance.
22 * @retval RTEMS_INVALID_ID Invalid task or scheduler identifier.
23 * @retval RTEMS_INVALID_PRIORITY Invalid priority.
24 * @retval RTEMS_RESOURCE_IN_USE The task owns resources which deny a_
    ↳ scheduler
25 * change.
26 *
27 * @see rtems_scheduler_ident().
28 */
29 rtems_status_code rtems_task_set_scheduler(
30 rtems_id          task_id,
31 rtems_id          scheduler_id,
32 rtems_task_priority priority
33 );
34 }}}

```

**Author:** Trac Migrate 2016-07-01T09:58:55.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset c0bd0064ac41f0602c0abfe494dbe140d7c5282f:

rtems: Fix rtems\_task\_set\_scheduler() API Task priorities are only valid within a scheduler instance. The rtems\_task\_set\_scheduler() directive moves a task from one scheduler instance to another using the current priority of the thread. However, the current task priority of the source scheduler instance is undefined in the target scheduler instance. Add a third parameter to specify the priority. Close [#2749](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.813 2748 - Move RTEMS-specific socket wake-up to RTEMS-specific <rtems/rtems\_bsdnet.h>

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2748                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-06-28T05:56:41.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | network::legacy, priority::normal, resolution::fixed, ticket-type::enhancement, version::4.10                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2748">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2748</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The <sys/socket.h> contains definitions for the RTEMS-specific socket wake-up support. Move this stuff to <rtems/rtems\_bsdnet.h> since this feature is not present in standard network stacks. Portable applications should not use it.

**Author:** Chris Johns 2016-06-28T05:57:45.000Z

Original author: sebastian.huber

Will this break existing applications?

**Author:** Trac Migrate 2016-06-28T06:07:06.000Z

Original author: sebastian.huber

Yes, if they use the old network stack and include only <sys/socket.h>.

**Author:** Trac Migrate 2016-06-28T13:20:39.000Z

Original author: sebastian.huber

- **Owner** set to Sebastian Huber <[sebastian.huber@embedded-brains.de](mailto:sebastian.huber@embedded-brains.de)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset e79a0ca75fbc87c17e220f6a80a64bff3d10c9dd:

libnetworking: Move RTEMS-specific socket wake-up Close [#2748](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.814 2745 - Use clock from pthread\_condattr in pthread\_cond\_timedwait

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2745                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Gedare Bloom                                                                                                                  |
| <b>Assignee(s)</b> | Gedare Bloom                                                                                                                  |
| <b>Created</b>     | 2016-06-23T20:10:07.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::defect, version::4.11                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2745">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2745</a> |
| <b>Merges</b>      | 0                                                                                                                             |

For pthread\_cond\_timedwait, the condition variable shall have a clock attribute which specifies the clock that shall be used to measure the time specified by the abstime argument. RTEMS currently does not honor the clock attribute.

See [http://pubs.opengroup.org/onlinepubs/9699919799/functions/pthread\\_cond\\_timedwait.html](http://pubs.opengroup.org/onlinepubs/9699919799/functions/pthread_cond_timedwait.html)

**Author:** Gedare Bloom 2016-06-23T20:10:22.000Z

- **Owner** set to @gedare
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Gedare Bloom 2017-06-30T13:24:31.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

fixed in b5bfaaf9c27996d672f7aad67fee24581ab2f218

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.815 2742 - New warning in SHM driver

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2742                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-06-16T16:31:15.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2742">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2742</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Not sure how to fix this one

```
../../../../../../../../rtems/c/src/libchip/shmdr/init.c:241:29: warning: assignment from incompatible
pointer type [-Wincompatible-pointer-types] MPC_I_Shm_extensions.fatal = MPC_I_Fatal; ^
```

PowerPC/psim with multiprocessing enabled.

**Author:** Joel Sherrill 2016-06-16T17:09:52.000Z

- **Description** changed

```
1 Not sure how to fix this one
2
3 ../../../../../../../../../../rtems/c/src/libchip/shmdr/init.c:241:29: warning:
4 ↪assignment from incompatible pointer type [-Wincompatible-pointer-
5 ↪types]
6 MPC_I_Shm_extensions.fatal = MPC_I_Fatal;
7 ^
8 +
9 + PowerPC/psim with multiprocessing enabled.
```

**Author:** Trac Migrate 2016-06-17T06:05:11.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In changeset 305231bd3c2cb78421cedb9d7093773359612445:

bsps: Fix MPC\_I\_Fatal() prototype Close [#2742](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.816 2741 - New warning from printf plugin changes

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2741                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2016-06-16T15:38:33.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | bsp, library::libcpu, priority::normal, resolution::fixed, tickettype::defect, version::5                                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2741">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2741</a> |
| <b>Merges</b>      | 0                                                                                                                             |

../../../../../../../../rtems/c/src/lib/libcpu/powerpc/mpc6xx/mmu/pte121.c: In function ‘what-Printf’:  
../../../../../../../../rtems/c/src/lib/libcpu/powerpc/mpc6xx/mmu/pte121.c:189:46:  
warning: pointer type mismatch in conditional expression return \_Thread\_Executing ? (Printf)  
printf : printk; ^

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-06-08T08:38:22.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

[73f8d938474d04013d785f5918d75b9d82c80ca3/rtems]

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed



## 4.2.1.817 2740 - Suboptimal type for Timestamp\_Control

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2740                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-06-15T08:53:55.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2740">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2740</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Currently we have

```
1 typedef struct bintime Timestamp_Control;
```

this type offers more precision than needed. Maybe use sbintime\_t (also known as int64\_t) instead to simplify computations.

**Author:** Trac Migrate 2017-02-15T14:25:52.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"Indefinite"
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-10-06T12:59:46.000Z

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"4.12.0"
- **Status** changed from *assigned* to *accepted*

**Author:** Trac Migrate 2017-10-09T12:15:53.000Z

Original author: sebastian.huber

In [changeset:"c0623a99419b18f5b29e932d298193e0245abf38/rtems" c0623a99/rtems]:

```

1 score: Simplify _Timestamp_Add_to()
2
3 Update #2740.

```

**Author:** Trac Migrate 2017-10-09T12:16:07.000Z

Original author: sebastian.huber

In [changeset:"2256946e9c0bc452004521d7aeeb68b72f680f42/rtems" 2256946/rtems]:

```

1 score: Use struct timespec for TOD
2
3 Use the timestamps only for uptime based values. Use struct timespec
4 for the absolute time values (TOD).
5
6 Update #2740.

```

**Author:** Trac Migrate 2017-10-09T12:16:23.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"65012bfebbc03088f0740b086abb26d2ff6ebd8b/rtems" 65012bf/rtems]:

```

1 score: Change Timestamp_Control to sbintime_t
2
3 The timestamp are based on the uptime. There is no need for a 64-bit
4 seconds part. The signed 32-bit seconds part of the sbintime_t limits
5 the uptime to roughly 68 years.
6
7 Close #2740.

```

**Author:** Trac Migrate 2017-10-12T05:05:47.000Z

Original author: sebastian.huber

In [changeset:"ed9a6fd8acba64a2f1f4a806fe30a48178aad0be/rtems" ed9a6fd/rtems]:

```

1 posix: Use right time format in adjtime()
2
3 Update #2740.

```

**Author:** Trac Migrate 2017-10-12T05:27:11.000Z

Original author: sebastian.huber

In [changeset:"16db540a59d92a2006ddb7d32e2f8727dfec22ca/rtems" 16db540a/rtems]:

```
1 Use right time format in _times()
2
3 Update #2740.
4 Close #3179.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.818 2737 - Add CLOCK\_DRIVER\_USE\_ONLY\_BOOT\_PROCESSOR

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2737                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-06-14T09:19:33.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | bsp, priority::normal, resolution::fixed, tickettype::defect, version::5                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2737">https://gitlab.rtems.org/rtems/rtems/-/issues/2737</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Add CLOCK\_DRIVER\_USE\_ONLY\_BOOT\_PROCESSOR clock driver option. If defined, then do the clock tick processing on the boot processor on behalf of all other processors. Currently, this is intended as a workaround for a Qemu shortcoming on ARM.

**Author:** Trac Migrate 2016-07-01T10:02:34.000Z

Original author: sebastian.huber

[b61d5cac7c5f1ba801a8d0f896313b2e5cd01111/rtems]

**Author:** Trac Migrate 2016-12-21T10:09:53.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[e7f40f04d39d3d87d30b50a02bab90a72a9dae61/rtems-docs]

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.819 2736 - pthread\_getschedparam() returns wrong priority values

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2736                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-06-13T06:03:46.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::defect, version::4.10                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2736">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2736</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

See also

[http://pubs.opengroup.org/onlinepubs/9699919799/functions/pthread\\_getschedparam.html](http://pubs.opengroup.org/onlinepubs/9699919799/functions/pthread_getschedparam.html)

“The priority value returned from pthread\_getschedparam() shall be the value specified by the most recent pthread\_setschedparam(), pthread\_setschedprio(), or pthread\_create() call affecting the target thread. It shall not reflect any temporary adjustments to its priority as a result of any priority inheritance or ceiling functions.”

**Author:** Trac Migrate 2016-06-13T12:59:41.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In changeset 23b1bb38b208a6638747bb49b8184a5571e8f5e7:

posix: Fix pthread\_getschedparam() Return the unmodified thread priority value according to POSIX. Close [#2736](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.820 2735 - pthread\_setschedparam() sets the priority not according to POSIX

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2735                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-06-13T06:02:09.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::defect, version::4.10                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2735">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2735</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

See also

[http://pubs.opengroup.org/onlinepubs/9699919799/functions/V2\\_chap02.html#tag\\_15\\_08\\_04\\_01](http://pubs.opengroup.org/onlinepubs/9699919799/functions/V2_chap02.html#tag_15_08_04_01)

In particular the distinction to pthread\_setschedprio() (SCHED\_FIFO, item 7.).

**Author:** Trac Migrate 2016-06-13T13:10:14.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*
- **Summary** changed from *pthread\_setschedparam() set the priority not according to POSIX* to *pthread\_setschedparam() sets the priority not according to POSIX*

**Author:** Trac Migrate 2016-06-13T13:20:19.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In changeset fc30ac5973aae2393fb318b56346368f5e9b4493:

posix: Fix pthread\_setschedparam() Close [#2735](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.821 2729 - TFTP client uses wrong semaphore for mutual exclusion

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2729                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-06-06T09:55:17.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::4.10                                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2729">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2729</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

```

1 cpukit/libnetworking/lib/tftpDriver.c- rtems_build_name('T', 'F', 'T', 'P'),
2 cpukit/libnetworking/lib/tftpDriver.c- 1,
3 cpukit/libnetworking/lib/tftpDriver.c- RTEMS_FIFO |
4 cpukit/libnetworking/lib/tftpDriver.c- RTEMS_BINARY_SEMAPHORE |
5 cpukit/libnetworking/lib/tftpDriver.c- RTEMS_NO_INHERIT_PRIORITY |
6 cpukit/libnetworking/lib/tftpDriver.c- RTEMS_NO_PRIORITY_CEILING |
7 cpukit/libnetworking/lib/tftpDriver.c- RTEMS_LOCAL,
```

Should use a binary semaphore with inherit priority.

**Author:** Trac Migrate 2016-06-06T09:55:31.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2016-06-06T11:16:50.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In changeset a2f91f6cb87a5c53d1bb6f3dcb4ad9153078918f:

tftp: Use proper semaphore attr for mutex Close #2729.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.822 2728 - Pipes use wrong semaphore for mutual exclusion

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2728                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-06-06T09:07:13.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::4.10                                |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2728">https://gitlab.rtems.org/rtems/rtems/-/issues/2728</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

```

1 cpukit/libfs/src/pipe/fifo.c-      sc = rtems_semaphore_create(
2 cpukit/libfs/src/pipe/fifo.c-        rtems_build_name('P', 'I', 'P', 'E'),
3 cpukit/libfs/src/pipe/fifo.c-        1,
4 cpukit/libfs/src/pipe/fifo.c:      RTEMS_BINARY_SEMAPHORE | RTEMS_INHERIT_
5 cpukit/libfs/src/pipe/fifo.c-        ↪PRIORITY | RTEMS_PRIORITY,
6 cpukit/libfs/src/pipe/fifo.c-        RTEMS_NO_PRIORITY,
7 cpukit/libfs/src/pipe/fifo.c-        &pipe_semaphore
8 cpukit/libfs/src/pipe/fifo.c-      );

```

Should use a binary semaphore with inherit priority instead.

**Author:** Trac Migrate 2016-06-06T11:16:40.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In changeset c75aa864cf614ec2cc82598eadef6067a7dbe3db:

pipe: Use proper semaphore attr for mutex Close #2728.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.823 2727 - FAT file systems use wrong semaphore for mutual exclusion

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2727                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-06-06T09:06:04.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | filesystem, filesystem::fat, priority::normal, resolution::fixed, ticket-type::defect, version::4.10                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2727">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2727</a> |
| <b>Merges</b>      | 0                                                                                                                             |



Original author: sebastian.huber

```

1 cpukit/libfs/src/dosfs/msdos_initsupp.c-
2 cpukit/libfs/src/dosfs/msdos_initsupp.c-      sc = rtems_semaphore_create(3,
3 cpukit/libfs/src/dosfs/msdos_initsupp.c-                                     1,
4 cpukit/libfs/src/dosfs/msdos_initsupp.c-                                     RTEMS_
      ↪ BINARY_SEMAPHORE | RTEMS_FIFO,
5 cpukit/libfs/src/dosfs/msdos_initsupp.c-                                     0,
6 cpukit/libfs/src/dosfs/msdos_initsupp.c-                                     &fs_info->
      ↪ vol_sema);
7 cpukit/libfs/src/dosfs/msdos_initsupp.c

```

Should use a binary semaphore with inherit priority.

**Author:** Trac Migrate 2016-06-06T11:16:31.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset a7f0096b730ebbb0b22b5each2ea20cd130344d:

dosfs: Use proper semaphore attr for mutex Close [#2727](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.824 2726 - grascs.c: Questionable use of binary semaphore

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2726                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-06-06T09:02:14.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:sparc, bsp, priority::normal, resolution::fixed, tickettype::defect, version::4.10, version::4.12, version::5            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2726">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2726</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Use a simple binary semaphore or binary semaphore with inherit priority instead.

```

1 c/src/lib/libbsp/sparc/shared/ascs/grascs.c-
2 c/src/lib/libbsp/sparc/shared/ascs/grascs.c- /* Create semaphores for blocking_
   ↳ASCS_TC/TM functions */
3 c/src/lib/libbsp/sparc/shared/ascs/grascs.c- if(rtems_semaphore_create(rtems_
   ↳build_name('A', 'S', 'C', '0'), 1,
4 c/src/lib/libbsp/sparc/shared/ascs/grascs.c: (RTEMS_
   ↳FIFO|RTEMS_BINARY_SEMAPHORE |
5 c/src/lib/libbsp/sparc/shared/ascs/grascs.c- RTEMS_NO_
   ↳INHERIT_PRIORITY|RTEMS_LOCAL |
6 c/src/lib/libbsp/sparc/shared/ascs/grascs.c- RTEMS_NO_
   ↳PRIORITY_CEILING), 0,
7 c/src/lib/libbsp/sparc/shared/ascs/grascs.c- &cfg->tcsem1)_
   ↳!= RTEMS_SUCCESSFUL) {

```

```

1 c/src/lib/libbsp/sparc/shared/ascs/grascs.c- goto init_error2;
2 c/src/lib/libbsp/sparc/shared/ascs/grascs.c- }
3 c/src/lib/libbsp/sparc/shared/ascs/grascs.c- if(rtems_semaphore_create(rtems_
   ↳build_name('A', 'S', 'C', '2'), 0,
4 c/src/lib/libbsp/sparc/shared/ascs/grascs.c: (RTEMS_
   ↳FIFO|RTEMS_BINARY_SEMAPHORE |
5 c/src/lib/libbsp/sparc/shared/ascs/grascs.c- RTEMS_NO_
   ↳INHERIT_PRIORITY|RTEMS_LOCAL |
6 c/src/lib/libbsp/sparc/shared/ascs/grascs.c- RTEMS_NO_
   ↳PRIORITY_CEILING), 0,
7 c/src/lib/libbsp/sparc/shared/ascs/grascs.c- &cfg->tcsem2)_
   ↳!= RTEMS_SUCCESSFUL) {

```

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Chris Johns 2017-08-14T00:49:08.000Z

Original author: sebastian.huber

- **Version** changed from ~"4.10" to ~"4.12"

**Author:** Trac Migrate 2017-08-30T10:41:43.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Fixed by efcac228f4888c2cccfea0caf584705f0fddfc14

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.825 2725 - Classic binary semaphores without a locking protocol can be released by everyone

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2725                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-06-03T06:16:16.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | cpukit, priority::high, priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::4.10                  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2725">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2725</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The Classic binary semaphores without a locking protocol can be released by everyone, e.g. in contrast to the POSIX mutexes (all variants) or the Classic binary semphores with priority inheritance or ceiling, there is no owner check in the release path.

This behaviour is a bit unexpected and not documented.

The following test case fails in case an owner check is added:

```

1 *** BEGIN OF TEST SP 42 ***
2 Exercising blocking discipline w/extract in FIFO order
3 Exercising blocking discipline w/unblock in FIFO order
4 TA00 - unblocked - OK
5
6 rtems_semaphore_delete FAILED -- expected (RTEMS_SUCCESSFUL) got (RTEMS_RESOURCE_
  ↳ IN_USE)

```

This is actually a bug in the test, since an available mutex is released again.

**Author:** Trac Migrate 2016-06-03T06:24:47.000Z

Original author: sebastian.huber

- **Summary** changed from *Classic binary semaphores without a locking protocol can be release by everyone* to *Classic binary semaphores without a locking protocol can be released by everyone*

**Author:** Chris Johns 2016-06-03T06:25:16.000Z

Original author: sebastian.huber

- **Description** changed

```

1 - The Classic binary semaphores without a locking protocol can be_
  ↳ released by everyone, e.g. in contrast to the POSIX mutexes (all_
  ↳ variants) or the Classic binary semphores with priority inheritance_
  ↳ or ceiling there is no owner check in the release path.
2 ?
  ↳
  ↳
  ↳
  ↳ ^^^^^^^^^^
3
4 + The Classic binary semaphores without a locking protocol can be_
  ↳ released by everyone, e.g. in contrast to the POSIX mutexes (all_
  ↳ variants) or the Classic binary semphores with priority inheritance_
  ↳ or ceiling, there is no owner check in the release path.
5 ?
  ↳
  ↳
  ↳
  ↳ ^^^^^^^^^^
6
7
8 This behaviour is a bit unexpected and not documented.
9
10 The following test case fails in case an owner check is added:
11
12 {{{
13 *** BEGIN OF TEST SP 42 ***

```

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```

14 Exercising blocking discipline w/extract in FIFO order
15 Exercising blocking discipline w/unblock in FIFO order
16 TA00 - unblocked - OK
17
18 rtems_semaphore_delete FAILED -- expected (RTEMS_SUCCESSFUL) got (RTEMS_
  ↳RESOURCE_IN_USE)
19 }}}
20
21 This is actually a bug in the test, since an available mutex is_
  ↳released again.

```

**Author:** Trac Migrate 2016-06-06T11:17:00.000Z

Original author: sebastian.huber

In changeset 3ad5f86cf6803204b98760cdce0c56ef6d79bccd:

rtems: Fix no protocol mutex release The Classic binary semaphores without a locking protocol (RTEMS\_BINARY\_SEMAPHORE) could be released by everyone, e.g. in contrast to the POSIX mutexes (all variants) or the Classic binary semaphores with priority inheritance or ceiling, there was no owner check in the release path. This behaviour was a bit unexpected and not documented. Add an owner check to the release path. Update sptests/sp42 accordingly. This change has nothing to do with the simple binary semaphores (RTEMS\_SIMPLE\_BINARY\_SEMAPHORE) which have no owner at all. Update [#2725](#)

**Author:** Trac Migrate 2016-12-23T14:10:09.000Z

Original author: sebastian.huber

- **Priority** changed from ~"normal" to ~"high"

**Author:** Trac Migrate 2017-01-23T12:46:12.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[31157bcd477336016a76ae75c8c51aca42c608fb/rtems-docs]

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.826 2723 - CPUINFO command to report per-processor information

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2723                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-05-31T08:09:28.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, version::5                                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2723">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2723</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Add a CPUINFO command to report per-processor information, e.g. processor index, online state and scheduler assignment.

```

1  [/] # cpuinfo
2  -----
3  PER PROCESSOR INFORMATION
4  -----+-----+-----+-----
5  INDEX | ONLINE | SCHEDULER ID | SCHEDULER NAME
6  -----+-----+-----+-----
7  0 |      1 | 0x0f010001 | MPS
8  1 |      1 | 0x0f010001 | MPS
9  2 |      1 | 0x0f010001 | MPS
10 3 |      1 | 0x0f010001 | MPS
11 4 |      1 | 0x0f010001 | MPS
12 5 |      1 | 0x0f010001 | MPS
13 6 |      1 | 0x0f010001 | MPS
14 7 |      1 | 0x0f010001 | MPS
15 8 |      1 | 0x0f010001 | MPS
16 9 |      1 | 0x0f010001 | MPS
17 10 |     1 | 0x0f010001 | MPS
18 11 |     1 | 0x0f010001 | MPS
19 12 |     1 | 0x0f010001 | MPS
20 13 |     1 | 0x0f010001 | MPS
21 14 |     1 | 0x0f010001 | MPS
22 15 |     1 | 0x0f010001 | MPS
23 16 |     1 | 0x0f010001 | MPS

```

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|    |    |  |   |  |            |  |     |
|----|----|--|---|--|------------|--|-----|
| 24 | 17 |  | 1 |  | 0x0f010001 |  | MPS |
| 25 | 18 |  | 1 |  | 0x0f010001 |  | MPS |
| 26 | 19 |  | 1 |  | 0x0f010001 |  | MPS |
| 27 | 20 |  | 1 |  | 0x0f010001 |  | MPS |
| 28 | 21 |  | 1 |  | 0x0f010001 |  | MPS |
| 29 | 22 |  | 1 |  | 0x0f010001 |  | MPS |
| 30 | 23 |  | 1 |  | 0x0f010001 |  | MPS |

**Author:** Trac Migrate 2016-05-31T08:12:02.000Z

Original author: sebastian.huber

In changeset 01cb5540bd7b391f9a19c79b284fdcf4385afc06:

shell: Add CPUINFO command Update [#2723](#).

**Author:** Trac Migrate 2016-12-19T14:07:20.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[f5170100f1a2fe449c327cb6786c4f3202cf07e8/rtems-docs]

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.827 2722 - SEM\_VALUE\_MAX is unusually small on RTEMS

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2722                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-05-25T12:13:57.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, ticket-type::enhancement, tool::newlib, version::4.10                |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2722">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2722</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

RTEMS defines SEM\_VALUE\_MAX to 32767 in Newlib

newlib/libc/sys/rtems/include/limits.h

Other systems use INT\_MAX or 2147483647.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2016-12-21T06:44:33.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

<https://sourceware.org/git/gitweb.cgi?p=newlib-cygwin.git;a=commit;h=483e696049e6c254d30663b15c7a5df1b75ca735>

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-05-11T07:31:02.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-09T06:27:14.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed



4.2.1.828 2718 - Blocking `_CORE_message_queue_Submit()` may lead to unpredictable results

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2718                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-05-24T13:30:17.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::4.10                                                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2718">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2718</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The thread wait return code is not properly initialized before the thread queue enqueue.

**Author:** Trac Migrate 2016-05-24T13:37:51.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 4b623d655bb4f4853a6ce385ae17e505dddb7ce:

score: Fix blocking `_CORE_message_queue_Submit()` Close [#2718](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.829 2714 - A pthread\_detach() does not lead to a resource reclamation

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2714                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-05-17T08:59:44.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, tickettype::defect, version::4.10                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2714">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2714</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

According to POSIX a pthread\_detach() should lead to a resource reclamation if the thread is already cancelled.

**Author:** Trac Migrate 2016-05-17T09:00:36.000Z

Original author: sebastian.huber

In changeset 9d8ee11e55a0c9e515409f40900917a58d3bf6cc:

psxtests/psxcancel: Add pthread\_detach() tests Update #2714.

**Author:** Trac Migrate 2016-05-20T05:56:37.000Z

Original author: sebastian.huber

In changeset 12a1228c593166069ac316f91865bdd9bb812ba1:

psxclassic01: Assume correct pthread\_detach() Update #2714.

**Author:** Trac Migrate 2016-05-20T05:59:18.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 54550e048d3a49435912797d2024f80671e93267:

posix: Rework pthread\_join() Rework pthread\_join() to use \_Thread\_Join(). Close #2402. Update #2555. Update #2626. Close #2714.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-09T06:27:14.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.830 2707 - Unsafe use of current processor index in capture engine

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2707                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-05-12T09:05:36.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::4.11                                                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2707">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2707</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The current processor index is used outside a thread dispatch disabled section.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2016-05-12T11:35:33.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

In changeset 0727760336bfc4f66771f1a86ee3bb923d2cfc4:

rtems: Add rtems\_interrupt\_lock\_interrupt\_disable Update [#2707](#).

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2016-05-12T11:36:20.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Owner** set to Sebastian Huber <[sebastian.huber@embedded-brains.de](mailto:sebastian.huber@embedded-brains.de)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset df23f464be5733b489eae03428d5449a37b310b9:

capture: Fix use of per-processor data Get the current processor index only once and with interrupts disabled. Close [#2707](#).

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.831 2706 - Buffer allocation of capture engine is broken on SMP configurations

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2706                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-05-12T09:03:22.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::4.11                                                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2706">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2706</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The capture engine uses function static variables.

---

**Author:** Trac Migrate 2016-05-12T11:35:52.000Z

---

Original author: sebastian.huber

- **Owner** set to Sebastian Huber <[sebastian.huber@embedded-brains.de](mailto:sebastian.huber@embedded-brains.de)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 2f11d4a0144207321838f746471b56c4cfa40a0d:

capture: Fix buffer allocation and free Do not use function static variables. Remove superfluous volatile qualifiers. Use proper integer types.  
Close [#2706](#).

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”4.12.0”

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-09T06:27:14.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.832 2700 - cpukit/libfs/src/nfsclient/src/rpcio.c:524]: (style) Suspicious condition

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2700                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-04-26T09:38:33.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::4.10                                              |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2700">https://gitlab.rtems.org/rtems/rtems/-/issues/2700</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: dcb

cpukit/libfs/src/nfsclient/src/rpcio.c:524]: (style) Suspicious condition (assignment + comparison); Clarify expression with parentheses.

Source code is

```
if ( (len = getgroups(NGROUPS, gids) < 0 ) ) {
```

maybe better code

```
if ( (len = getgroups(NGROUPS, gids)) < 0 ) {
```

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-01-20T15:17:24.000Z |
|------------------------------------------------------|

Original author: dcb

Still broken nine months later.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-01-23T13:39:44.000Z |
|------------------------------------------------------|

Original author: dcb

- **Owner** set to Sebastian Huber <[sebastian.huber@embedded-brains.de](mailto:sebastian.huber@embedded-brains.de)>
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In changeset c0151e6c6486ce3ae3623e616326fae626f32eb2:

nfsclient: Fix suspicious condition Close [#2700](#).

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-01-23T13:40:22.000Z |
|------------------------------------------------------|

Original author: dcb

- **Milestone** changed from %"4.11.1" to %"4.12"

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-05-11T07:31:02.000Z |
|------------------------------------------------------|

Original author: dcb

- **Milestone** changed from %"4.12" to %"4.12.0"

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-09T06:27:14.000Z |
|------------------------------------------------------|

Original author: dcb

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.833 2698 - GCC 6.1 is broken for microblaze

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2698                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-04-21T06:17:33.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::gcc, version::5                                                |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2698">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2698</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The enabled libatomic reveals a bug in the microblaze RTEMS configuration:

```
configure:3566: checking for C compiler default output file name configure:3588: /scratch/git-
rtems-source-builder/rtems/build/microblaze-rtems4.12-gcc-6.0.1-RC-20160415-newlib-
6ee81f44e04848901c7b05c968564d34a7ceed06-x86_64-linux-gnu-1/build/./gcc/xgcc
-B/scratch/git-rtems-source-builder/rtems/build/microblaze-rtems4.12-gcc-6.0.1-RC-
20160415-newlib-6ee81f44e04848901c7b05c968564d34a7ceed06-x86_64-linux-gnu-
1/build/./gcc/ -nostdinc -B/scratch/git-rtems-source-builder/rtems/build/microblaze-
rtems4.12-gcc-6.0.1-RC-20160415-newlib-6ee81f44e04848901c7b05c968564d34a7ceed06-
x86_64-linux-gnu-1/build/microblaze-rtems4.12/newlib/ -isystem /scratch/git-
rtems-source-builder/rtems/build/microblaze-rtems4.12-gcc-6.0.1-RC-20160415-
newlib-6ee81f44e04848901c7b05c968564d34a7ceed06-x86_64-linux-gnu-
1/build/microblaze-rtems4.12/newlib/targ-include -isystem /scratch/git-rtems-
```

```
source-builder/rtems/build/microblaze-rtems4.12-gcc-6.0.1-RC-20160415-newlib-
6ee81f44e04848901c7b05c968564d34a7ceed06-x86_64-linux-gnu-1/gcc-6.0.1-RC-
20160415/newlib/libc/include      -B/build/rtems-4.12/microblaze-rtems4.12/bin/      -
B/build/rtems-4.12/microblaze-rtems4.12/lib/      -isystem      /build/rtems-4.12/microblaze-
rtems4.12/include      -isystem      /build/rtems-4.12/microblaze-rtems4.12/sys-include      -g      -O2
conftest.c >&5 /build/rtems-4.12/microblaze-rtems4.12/bin/ld: cannot open linker script file
xilinx.ld: No such file or directory collect2: error: ld returned 1 exit status
```

Reason:

```
gcc/config/microblaze/microblaze.h: %{!T*: -dT xilinx.ld%s}"
```

This should be somehow fixed in the RTEMS GCC configuration for microblaze.

**Author:** Joel Sherrill 2016-04-21T14:54:47.000Z

Original author: sebastian.huber

This is in gcc/config/microblaze/microblaze.h:

```
/* Extra switches sometimes passed to the linker. // -xl-mode-xmdstub translated
to -Zxl-mode-xmdstub – deprecated. */
```

```
%{mbig-endian:-EB      -oformat=elf32-microblaze}      %{mlittle-
endian:-EL      -oformat=elf32-microblazeel}      %{Zxl-mode-
xmdstub:-defsym      _TEXT_START_ADDR=0x800}      %{mxl-mode-
xmdstub:-defsym      _TEXT_START_ADDR=0x800}      %{mxl-gp-
opt:%{G*}}      %{!mxl-gp-opt:      -G      0}      %{!T*:      -dT      xilinx.ld%s}"
=====
```

We can add an undef of LINK\_SPEC to gcc/config/microblaze/rtems.h as a minimum. Or we can redefine it to a subset of what it is by default.

Based on the set of libc.a's installed, I think we need at least the endian flags. I would tend to keep the mxl-gp-opt since it looks harmless enough. But I would redefine and drop the xmdstub and xilinx.ld ones (drop 3, keep rest). That results in:

```
%{mbig-endian:-EB      -oformat=elf32-microblaze}      %{mlittle-endian:-EL
-oformat=elf32-microblazeel}      %{mxl-gp-opt:%{G*}}      %{!mxl-gp-opt: -G 0}
```

How does that look?

**Author:** Joel Sherrill 2016-04-21T15:41:04.000Z

Original author: sebastian.huber

I posted a patch which builds but I haven't tested it with RTEMS. Give this a try:

<https://lists.rtems.org/pipermail/devel/2016-April/014651.html>

**Author:** Trac Migrate 2016-04-27T07:08:00.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

<https://gcc.gnu.org/viewcvs/gcc?view=revision&revision=235465>

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.834 2696 - Unpredictable errno value returned by sem\_wait() in case of semaphore deletion

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2696                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-04-19T09:14:18.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::4.10                                                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2696">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2696</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

\_POSIX\_Semaphore\_Delete() used -1 for the thread queue flush status which in turn resulted in an invalid memory access in \_POSIX\_Semaphore\_Translate\_core\_semaphore\_return\_code().

**Author:** Joel Sherrill 2016-04-19T13:10:50.000Z

Original author: sebastian.huber

I went back to the 4.8 branch and the translation was a switch in semaphore-waitsupp.c which covered all cases. Also the error returned was not -1 but CORE\_SEMAPHORE\_WAS\_DELETED.

Somewhere along the line, the code was changed to a table lookup and range checking was moved to an ifdef DEBUG.



I have no idea why the status returned is no longer `CORE_SEMAPHORE_WAS_DELETED` which would likely not result in an out of range access.

Did the debug check catch this error? If not, then the debug check is insufficient.

---

**Author:** Trac Migrate 2016-04-19T13:14:45.000Z

---

Original author: sebastian.huber

There was no test case, so the debug check was simply not triggered.

---

**Author:** Trac Migrate 2016-04-21T05:33:39.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 90f1265e5dffe0f834ee9c55640a34fd90be8f12:

score: Fix `_CORE_semaphore_Flush()` Use proper  
`CORE_semaphore_Status` for `_CORE_semaphore_Flush()` and  
`_CORE_semaphore_Destroy()` operations. Close [#2696](#).

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.835 2695 - Add libatomic for RTEMS

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2695                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-04-19T06:00:26.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::gcc, version::4.10, version::4.11                              |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2695">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2695</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

**Author:** Trac Migrate 2016-04-19T06:00:38.000Z

Original author: sebastian.huber

- **Version** changed from ~"4.10" to ~"4.11"

**Author:** Trac Migrate 2016-04-19T07:27:46.000Z

Original author: sebastian.huber

<https://lists.rtems.org/pipermail/devel/2016-April/014554.html> <https://lists.rtems.org/pipermail/devel/2016-April/014555.html> <https://lists.rtems.org/pipermail/devel/2016-April/014556.html>

**Author:** Chris Johns 2016-04-19T07:33:48.000Z

Original author: sebastian.huber

Replying to [sebastian.huber](#):

<https://lists.rtems.org/pipermail/devel/2016-April/014555.html>

Does this patch require crt0.c being updated?

Re <https://lists.rtems.org/pipermail/users/2016-April/030145.html>

**Author:** Trac Migrate 2016-04-19T08:16:28.000Z

Original author: sebastian.huber

Replying to [chrisj](#):

Replying to [sebastian.huber](#):

<https://lists.rtems.org/pipermail/devel/2016-April/014555.html>

Does this patch require crt0.c being updated? Re <https://lists.rtems.org/pipermail/users/2016-April/030145.html>

Yes:

<https://lists.rtems.org/pipermail/devel/2016-April/014558.html>

---

**Author:** Chris Johns 2016-04-19T08:19:46.000Z

---

Original author: sebastian.huber

Replying to [sebastian.huber](#):

<https://lists.rtems.org/pipermail/devel/2016-April/014558.html>

Is that on top of Joel's patch?

---

**Author:** Trac Migrate 2016-04-27T07:15:27.000Z

---

Original author: sebastian.huber

<https://gcc.gnu.org/viewcvs/gcc?view=revision&revision=235466>

---

**Author:** Trac Migrate 2016-07-01T10:01:24.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Fixed in this RSB version:

<https://git.rtems.org/rtems-source-builder/commit/?id=3da4d0e5ce50909d4fe45168d6d6a82ebc119f92>

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.836 2692 - User extensions execution order must be clarified

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2692                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-04-14T07:00:24.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::high, priority::normal, resolution::fixed, rtems::score, ticket-type::defect, version::4.11               |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2692">https://gitlab.rtems.org/rtems/rtems/-/issues/2692</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The implemented and documented execution order of some user extensions disagree. Intended behaviour must be tested. Documentation must be updated accordingly.

**Author:** Trac Migrate 2016-04-19T05:23:26.000Z

Original author: sebastian.huber

In changeset 709f38a97287ff1aa8e8c0668c2d066e711db87c:

score: Use chain iterator for user extensions Add a lock and use a chain iterator for safe iteration during concurrent user extension addition and removal. Ensure that dynamically added thread delete and fatal extensions are called in reverse order. Update [#2555](#). Update [#2692](#).

**Author:** Trac Migrate 2016-12-23T14:10:09.000Z

Original author: sebastian.huber

- **Priority** changed from ~"normal" to ~"high"

**Author:** Trac Migrate 2017-01-26T12:55:05.000Z

Original author: sebastian.huber

In changeset 6f6da82ca0b57ed1c42050f8103c2ea2adb3d3e2:

score: Fix user extensions order Use forward and reverse order for initial and dynamic extensions. This is the behaviour documented in the C Users Guide. Change thread terminate order to backward to be in line with the thread delete order. Change fatal error order to forward to ensure that initial extensions are called first due the peculiar execution context of fatal error extensions, see `_Terminate()` documentation. Update [#2692](#).

---

**Author:** Trac Migrate 2017-01-27T06:24:44.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[b1e3b75e907db0f448610f18c5e11dd1ee9448b2/rtems-docs]

---

**Author:** Trac Migrate 2017-02-21T11:12:45.000Z

---

Original author: sebastian.huber

In changeset c54769e71e1c87c55e482a3d05322e728fb2aac1:

spextensions01: Fix extension create order Update [#2692](#).

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.837 2689 - POSIX key destructors must be called during thread restart

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2689                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-04-14T06:06:04.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | api::posix, cpukit, priority::normal, resolution::fixed, rtems::score, ticket-type::defect, version::4.11           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2689">https://gitlab.rtems.org/rtems/rtems/-/issues/2689</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

POSIX key destructors must be called during thread restart. Just like the POSIX cleanup handlers. This ensures that the TLS object destructors are called during thread restart for example.

It is important for the global construction, which uses a thread restart to run the Init task in a clean environment.

**Author:** Trac Migrate 2016-04-14T07:01:14.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 6efa3498504bffde166b4663319bd7d94ea42a08:

posix: Run key destructors during thread restart POSIX key destructors must be called during thread restart. Just like the POSIX cleanup handlers. This ensures that the TLS object destructors are called during thread restart for example. It is important for the global construction, which uses a thread restart to run the Init task in a clean environment. Close [#2689](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.838 2685 - c/src/lib/libbsp/arm/atsam/network/if\_atsam.c:409: possible bad if statement

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2685                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-04-07T21:07:24.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:arm, priority::normal, resolution::fixed, tickettype::defect, version::4.10, version::4.12, version::5         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2685">https://gitlab.rtems.org/rtems/rtems/-/issues/2685</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: dcb

rtems/c/src/lib/libbsp/arm/atsam/network/if\_atsam.c:409]: (style) Redundant condition: If 'phy <= 0', the comparison 'phy <= 31' is always true.

Source code is

```
if ((phy <= 0) && (phy <= 31)) { /* * invalid phy number */
```

Maybe better code

```
if ((phy <= 0) || (phy >= 31)) { /* * invalid phy number */
```

---

**Author:** Trac Migrate 2016-04-14T05:52:12.000Z

---

Original author: dcb

- **Milestone** changed from %"4.11.1" to %"4.12"
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*
- **Version** changed from ~"4.10" to ~"4.12"

---

**Author:** Trac Migrate 2016-06-06T11:17:28.000Z

---

Original author: dcb

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In changeset 15f0f9b448150f1ac828a9d3e498a7249dbdc362:

atsam: Fix network interface PHY handling Close [#2685](#).

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: dcb

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: dcb

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.839 2684 - rtems/c/src/lib/libbsp/sparc/leon3/clock/ckinit.c:122: duplicate if

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2684                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-04-07T21:05:07.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:sparc, bsp, priority::normal, resolution::fixed, tickettype::defect, version::4.10, version::4.11                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2684">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2684</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: dcb

rtems/c/src/lib/libbsp/sparc/leon3/clock/ckinit.c:122]: (style) Expression is always false because ‘else if’ condition matches previous condition at line 116.

Source code is

```
} else if (state == 1) { unsigned int ks = 1U << 5;
```

```
state = 0;
```

```
irqmp_ts->control = ks | s1_s2 | (unsigned int) clkirq; } else if (state == 1) {
```

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Trac Migrate    2016-04-14T05:52:58.000Z |
|---------------------------------------------------------|

Original author: dcb

- **Milestone** changed from %”4.11.1” to %”4.12”
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*
- **Version** changed from ~”4.10” to ~”4.11”

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Trac Migrate    2016-07-05T07:59:52.000Z |
|---------------------------------------------------------|

Original author: dcb

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*

[291945f137d411834c0eaf3b0bb819263efb845b/rtems]

No plans to fix this for RTEMS 4.11.

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Trac Migrate    2017-05-11T07:31:02.000Z |
|---------------------------------------------------------|



Original author: dcb

- **Milestone** changed from %"4.12" to %"4.12.0"

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-09T06:27:14.000Z |
|------------------------------------------------------|

Original author: dcb

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.840 2680 - Add pthread\_setconcurrency() and pthread\_getconcurrency()

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2680                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2016-03-29T21:14:23.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | cpukit, doc, priority::normal, resolution::fixed, tickettype::enhancement, version::5                                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2680">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2680</a> |
| <b>Merges</b>      | 0                                                                                                                             |

\*\*\* Code merged. Ticket changed to documentation to remind us to add documentation when master documentation reopens in new format.

We only require the simple implementation documented here:

[http://pubs.opengroup.org/onlinepubs/9699919799/functions/pthread\\_getconcurrency.html](http://pubs.opengroup.org/onlinepubs/9699919799/functions/pthread_getconcurrency.html)

This is required for FACE Conformance.

|                                                       |
|-------------------------------------------------------|
| <b>Author:</b> Joel Sherrill 2016-04-15T14:41:46.000Z |
|-------------------------------------------------------|

- **Description** changed

```

1 + *** Code merged. Ticket changed to documentation to remind us to add_
  ↪ documentation when master documentation reopens in new format.
2 +
3 We only require the simple implementation documented here:
4
5 http://pubs.opengroup.org/onlinepubs/9699919799/functions/pthread_
  ↪ getconcurrency.html
6
7 This is required for FACE Conformance.
```

- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*

<https://git.rtems.org/rtems/commit/?id=8228548d127dd73439615f45f38f92b8a42bcfed> added the calls.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-10-12T00:58:27.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In [changeset:"d36d685f9840afb44bc3da60ad5d0f71564c3782/rtems-docs"d36d685/rtems-docs]:

```
1 posix-users/thread.rst: Add pthread_getconcurrency and pthread_
  ↪setconcurrency
2
3 Closes #2680.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.841 2674 - CORE spinlock implementation is next to be useless

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2674                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-03-22T13:27:50.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::defect, version::4.10                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2674">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2674</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Lets assume we have two tasks A and B. Task A acquires a CORE spinlock. Now B somehow executes and tries to acquire the same CORE spinlock, then no progress can be made.

Alternative implementation:

Disable thread dispatching and interrupts while owning the spinlock. Forbid blocking calls while owning the spinlock.

Drawback: The test cases of the Linux Test Project would fail:

[https://github.com/linux-test-project/ltp/blob/master/testcases/open\\_posix\\_testsuite/conformance/interfaces/pthread\\_spin\\_lock/1-2.c](https://github.com/linux-test-project/ltp/blob/master/testcases/open_posix_testsuite/conformance/interfaces/pthread_spin_lock/1-2.c)

Optimization: User provided storage space for pthread\_spin\_t. In line with POSIX:

“Only the object referenced by lock may be used for performing synchronization.”

[http://pubs.opengroup.org/onlinepubs/009695399/functions/pthread\\_spin\\_destroy.html](http://pubs.opengroup.org/onlinepubs/009695399/functions/pthread_spin_destroy.html)

---

**Author:** Trac Migrate 2016-11-23T11:55:03.000Z

---

Original author: sebastian.huber

In changeset c42be504c92d76d2e06d0fc8ebd05fc913376d2d:

posix: Add self-contained pthread spinlock Turn pthread\_spinlock\_t into a self-contained object. On uni-processor configurations, interrupts are disabled in the lock/trylock operations and the previous interrupt status is restored in the corresponding unlock operations. On SMP configurations, a ticket lock is acquired and released in addition. The self-contained pthread\_spinlock\_t object is defined by Newlib in <sys/\_pthreadtypes.h>. typedef struct { struct \_Ticket\_lock\_Control \_lock; \_\_uint32\_t \_interrupt\_state; } pthread\_spinlock\_t; This implementation is simple and efficient. However, this test case of the Linux Test Project would fail due to call of printf() and sleep() during spin lock ownership: [https://github.com/linux-test-project/ltp/blob/master/testcases/open\\_posix\\_testsuite/conformance/interfaces/pthread\\_spin\\_lock/1-2.c](https://github.com/linux-test-project/ltp/blob/master/testcases/open_posix_testsuite/conformance/interfaces/pthread_spin_lock/1-2.c) There is only limited support for profiling on SMP configurations. Delete CORE spinlock implementation. Update #2674.

---

**Author:** Trac Migrate 2016-11-23T14:12:55.000Z

---

Original author: sebastian.huber

In changeset d42cf3388e6fdc2a82a4fcbbeb704c8277cd611a5:

posix: Fix typo Update #2674.

---

**Author:** Trac Migrate 2016-12-02T08:57:24.000Z

---

Original author: sebastian.huber

In changeset aadd318cd92e42839cf86260e1085f2953113180:

posix: Fix fall back spinlock implementation Update #2674.

---

**Author:** Trac Migrate 2017-02-15T13:30:19.000Z

---

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”4.12.0”

---

**Author:** Trac Migrate 2017-05-11T07:41:37.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *assigned* to *closed*
- **Version** ~”4.10” deleted

Added to documentation:

[file:///home/EB/sebastian\\_h/git-rtems-docs/build/c-user/html/symmetric\\_multiprocessing\\_services.html#disabling-of-interrupts](file:///home/EB/sebastian_h/git-rtems-docs/build/c-user/html/symmetric_multiprocessing_services.html#disabling-of-interrupts)

---

**Author:** Trac Migrate 2017-10-12T05:16:16.000Z

---

Original author: sebastian.huber

In [changeset:”9c0cefbfa5eb426ff26954066b5d1f786754a538/rtems”  
9c0cefb/rtems]:

```

1 confdefs: Add warnings for obsolete options
2
3 Update #2674.
4 Close #3112.
5 Close #3113.
6 Close #3114.
7 Close #3115.
8 Close #3116.
```

---

**Author:** Trac Migrate 2017-10-18T06:53:08.000Z

---

Original author: sebastian.huber

In [changeset:”6087f33e3145a0164bb0f0b3f375802d14169d4c/rtems”  
6087f33e/rtems]:

```

1 tmtests/tmfine01: Add test cases
2
3 Update #2674.
```

(continues on next page)

(continued from previous page)

4 Update #3112.  
 5 Update #3113.  
 6 Update #3114.  
 7 Update #3115.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.842 2672 - After latest patches with Objects\_Get\_by\_name rtems-master not compiling without `--enable-posix`

|                    |                                                                                                                                 |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2672                                                                                                                            |
| <b>State</b>       | closed                                                                                                                          |
| <b>Type</b>        | ISSUE                                                                                                                           |
| <b>Author</b>      | Trac Migrate                                                                                                                    |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                    |
| <b>Created</b>     | 2016-03-21T15:02:41.000Z                                                                                                        |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                        |
| <b>Milestone</b>   | 5.1                                                                                                                             |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/2672">https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/2672</a> |
| <b>Merges</b>      | 0                                                                                                                               |

Original author: SergKruglov

After latest patches with Objects\_Get\_by\_name rtems-master not compiling if i use `--disable-posix`. Type "Objects\_Get\_by\_name\_error" not resolved in posixapi.h in sapi folder. If `--enable-posix` - all OK.

**Author:** Trac Migrate 2016-03-22T06:44:56.000Z

Original author: SergKruglov

- **Owner** set to Sebastian Huber <[sebastian.huber@embedded-brains.de](mailto:sebastian.huber@embedded-brains.de)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset c61431f9349869e94f12787abea796861039054e:

score: Always declare `_Objects_Get_by_name()` Still define it only if `RTEMS_SCORE_OBJECT_ENABLE_STRING_NAMES` is defined. Close #2672.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: SergKruglov

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: SergKruglov

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.843 2669 - Update OpenRISC toolchain in 4.12

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2669                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-03-20T15:53:21.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, tool::rtems-source-builder, version::5                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2669">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2669</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: wallento

Bump the OpenRISC toolchain to newer versions:

- Binutils to 2.26
- GCC to 4.9.3
- GDB to 7.11
- [0001-Bump-OpenRISC-versions-1.patch](#)

---

**Author:** Trac Migrate 2016-03-20T15:53:44.000Z

---

Original author: wallento

- **Attachment** [0001-Bump-OpenRISC-versions-1.patch](#) added

---

**Author:** Trac Migrate 2016-03-24T20:19:18.000Z

---

Original author: wallento

In changeset eac749bb80b184c1f5e34e40d745e0c428cb9f73:

Bump OpenRISC versions Bump the OpenRISC toolchain to newer versions. \* Binutils to 2.26 \* GCC to 4.9.3 \* GDB to 7.11 updates [#2669](#)

**Author:** Gedare Bloom 2016-03-25T12:27:54.000Z

Original author: wallento

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: wallento

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: wallento

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.844 2664 - spclock\_err02

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2664                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-03-18T18:51:10.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::duplicate, rtems::score, tickettype::defect, version::5                               |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2664">https://gitlab.rtems.org/rtems/rtems/-/issues/2664</a> |
| <b>Merges</b>      | 0                                                                                                                   |

New test failure on sis but likely all targets.

```
* BEGIN OF TEST SPCLOCK_ERR 2 * TA1 - rtems_io_close - RTEMS_INVALID_NUMBER
TA1 - rtems_io_control - RTEMS_INVALID_NUMBER TA1 - rtems_io_initialize -
RTEMS_INVALID_NUMBER TA1 - rtems_io_open - RTEMS_INVALID_NUMBER TA1 -
rtems_io_read - RTEMS_INVALID_NUMBER TA1 - rtems_io_write - RTEMS_INVALID_NUMBER
TA1 - rtems_clock_set - 23:59:59 12/31/2000 - RTEMS_SUCCESSFUL TA1 -
rtems_clock_get_tod - 00:00:00 01/01/2001 - RTEMS_SUCCESSFUL TA1 - rtems_clock_set
- 23:59:59 12/31/1999 - RTEMS_SUCCESSFUL TA1 - rtems_clock_get_tod - 00:00:00
01/01/2000 - RTEMS_SUCCESSFUL assertion "ticks < 0x400000000" failed: file
```





## 9 0x02012d60 in \_Thread\_Handler ()

```
at ../../../../../../rtems/c/src/../../../../cpukit/score/src/threadhandler.c:29 (gdb) l init.c:93 88 sta-
tus = rtems_clock_get_tod( &time ); 89 directive_failed( status, "rtems_clock_get_tod"
); 90 print_time( "TA1 - rtems_clock_get_tod - ", &time, " - RTEMS_SUCCESSFULn"
); 91 92 build_time( &time, 12, 31, 2100, 23, 59, 59, 0 ); 93 status =
rtems_clock_set( &time ); 94 directive_failed( status, "rtems_clock_set" ); 95 print_time( "TA1
- rtems_clock_set - ", &time, " - RTEMS_SUCCESSFULn" ); 96 status = rtems_task_wake_after(
rtems_clock_get_ticks_per_second() ); 97 status = rtems_clock_get_tod( &time ); (gdb)
```

**Author:** Trac Migrate 2016-03-21T06:37:48.000Z

- **Resolution** set to ~"duplicate"
- **Status** changed from *new* to *closed*

This is with RTEMS\_DEBUG enabled and is a duplicate of [#2624](#). See also comment in `_Watchdog_Ticks_from_timespec()`.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.845 2663 - pc386 BSP has complex dependencies

|                    |                                                                                                                                  |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2663                                                                                                                             |
| <b>State</b>       | closed                                                                                                                           |
| <b>Type</b>        | ISSUE                                                                                                                            |
| <b>Author</b>      | Joel Sherrill                                                                                                                    |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                     |
| <b>Created</b>     | 2016-03-18T15:22:52.000Z                                                                                                         |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                         |
| <b>Milestone</b>   | 5.1                                                                                                                              |
| <b>Labels</b>      | arch:i386, bsp, priority::normal, resolution::wontfix, tickettype::defect, tickettype::enhancement, version::4.11, version::4.12 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2663">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2663</a>    |
| <b>Merges</b>      | 0                                                                                                                                |

In 4.11, the minimum executable did not include `open()` and `close()` because the methods `rtems_libio_post_driver()` and `rtems_libio_exit()` were not included in the executable. On the master, these two methods are showing up in minimum and pulling in these methods.

The dependency chain used to be if the console driver was installed, we needed to open and close `stdin`, `stdout`, and `stderr`. Now even without the console configured these are included.

FWIW the minimum size looks pretty good on the master for sis. Fixing this would likely drop it at least another 5%.

---

**Author:** Trac Migrate 2016-03-21T06:47:24.000Z

---

This looks like a BSP-specific issue. On which BSP do you see this?

---

**Author:** Chris Johns 2016-03-21T06:50:32.000Z

---

SIS by the looks of “FWIW the minimum size looks pretty good on the master for sis. ...”.

---

**Author:** Trac Migrate 2016-03-21T06:52:49.000Z

---

Yes, but I don’t see this problem on the sis BSP.

---

**Author:** Trac Migrate 2016-03-21T07:41:18.000Z

---

It seems to be the pc386 BSP. It pulls in a lot of stuff via `printk()` (e.g. `console_select.c`).

---

**Author:** Trac Migrate 2016-03-21T07:57:49.000Z

---

- **Version** changed from ~”4.12” to ~”4.11”

The pc386 BSP has this problem also in 4.11.

---

**Author:** Trac Migrate 2016-03-21T07:59:24.000Z

---

- **Summary** changed from *Dependency on `open()` and `close()` reintroduced to pc386 BSP has complex dependencies*

---

**Author:** Joel Sherrill 2016-03-21T12:35:15.000Z

---

I saw this on sis. I was teaching a class and wouldn’t use pc386 (or any BSP simulated on qemu) as my first choice since you want a simpler BSP and simpler way to execute it.

But I don’t see it in sis minimum.exe now. I am going to close this.

---

**Author:** Joel Sherrill 2016-03-21T12:36:24.000Z

---

The pc386 and motorola\_powerpc probe for a lot of features and don’t have them as optional. They aren’t focused on low size but flexibility. The pc386 can have the console changed by boot arguments and this is the intention. Most BSPs don’t have that kind of flexibility.

**Author:** Joel Sherrill 2016-03-21T12:36:39.000Z

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.846 2644 - sis does not run on gdb 7.11 but does on gdb 7.9

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2644                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-03-14T18:01:19.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2644">https://gitlab.rtems.org/rtems/rtems/-/issues/2644</a> |
| <b>Merges</b>      | 0                                                                                                                   |

I know we reported this on the gdb list but we should have a ticket.

Neither gdb nor run works for sis on gdb 4.11. Checked against RTEMS 4.11 tools (gdb 4.9) and it will run sis.

Not sure about other simulators.

**Author:** Chris Johns 2016-03-15T22:24:32.000Z

- **Summary** changed from *sis does not run on gdb 4.11 but does on gdb 4.9* to *sis does not run on gdb 7.11 but does on gdb 7.9*

There is 2 separate problems:

1. the run command does not work any more 1. on Linux and OS X the simulator does not work

This patch <https://sourceware.org/git/gitweb.cgi?p=binutils-gdb.git;a=commit;h=465fb143> changed the sim/erc32 from the sim/common/run.c to sis.o for the run command so in effect made the run command the same as the sis command.

Our rtems-4.11 release uses gdb-7.9 with 23 patches (<https://git.rtems.org/rtems-tools/tree/tools/4.11/gdb/sparc/7.9?h=4.11>) so upgrading to gdb-7.11 was considered a better move than moving the rtems-4.11 patches to rtems-4.12. Of the 23 patches gdb-7.11 has patches 0001-0013 merged along with 0016 and the remaining patches are not merged. The 0014 patch is a gdb-7.9 version of my patch to clean up the output paths. Without that patch the erc32 does not support MI mode and can block on input locking up when run in the test framework. The remaining patches are LEON2 and LEON3 support which I am not sure about and watchpoints.

Running on FreeBSD works with the sparc/sis BSP. Running on Linux gives:

```

1 chris@titi:~/development/rtems/test/gdb/sparc-rtems4.12$ /opt/rtems/4.
  ↪12/bin/sparc-rtems4.12-gdb /home/chris/development/rtems/kernel/erc32-
  ↪sis/sparc-rtems4.12/c/sis/testsuites/samples/hello/hello.exe
2 GNU gdb (GDB) 7.11
3 Copyright (C) 2016 Free Software Foundation, Inc.
4 License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.
  ↪html>
5 This is free software: you are free to change and redistribute it.
6 There is NO WARRANTY, to the extent permitted by law. Type "show_
  ↪copying"
7 and "show warranty" for details.
8 This GDB was configured as "--host=x86_64-linux-gnu --target=sparc-
  ↪rtems4.12".
9 Type "show configuration" for configuration details.
10 For bug reporting instructions, please see:
11 <http://www.gnu.org/software/gdb/bugs/>.
12 Find the GDB manual and other documentation resources online at:
13 <http://www.gnu.org/software/gdb/documentation/>.
14 For help, type "help".
15 Type "apropos word" to search for commands related to "word"...
16 Reading symbols from /home/chris/development/rtems/kernel/erc32-sis/
  ↪sparc-rtems4.12/c/sis/testsuites/samples/hello/hello.exe...done.
17 (gdb) tar sim -v
18
19 SIS - SPARC instruction simulator 2.7.5
20 Bug-reports to Jiri Gaisler ESA/ESTEC (jgais@wd.estec.esa.nl)
21 RAM start: 0x2000000, RAM size: 256 K, ROM size: 128 K
22 Waitstates = RAM read: 3, RAM write: 3, ROM read: 15, ROM write: 15
23 Watchdog started, scaler = 255, counter = 65535
24 serial port A on stdin/stdout
25 Connected to the simulator.
26 (gdb) load
27 loading /home/chris/development/rtems/kernel/erc32-sis/sparc-rtems4.12/
  ↪c/sis/testsuites/samples/hello/hello.exe:
28 section .text at 0x02000000 (0x19980 bytes)
29 section .rtemsroset at 0x02019980 (0x40 bytes)
30 section .data at 0x020199c0 (0x670 bytes)
31 section .bss at 0x0201a040 (0x1920 bytes)(not loaded)
32 (gdb) run

```

(continues on next page)

(continued from previous page)

```

33 Starting program: /home/chris/development/rtems/kernel/erc32-sis/sparc-
   ↪ rtems4.12/c/sis/testsuites/samples/hello/hello.exe
34 RAM start: 0x2000000, RAM size: 256 K, ROM size: 128 K
35 Waitstates = RAM read: 3, RAM write: 3, ROM read: 15, ROM write: 15
36 Watchdog started, scaler = 255, counter = 65535
37 resuming at 2000000
38 Waitstates = RAM read: 0, RAM write: 0, ROM read: 0, ROM write: 0
39 Watchdog disabled
40 Error manager halt - MEC hardware error
41 RAM start: 0x2000000, RAM size: 4096 K, ROM size: 1024 K
42 Error manager halt - IU in error mode
43 Error manager halt - MEC hardware error
44 [Inferior 1 (process 42000) exited normally]
45 (gdb)

```

I am not sure what broken this.

Back to the run command. The run command should be using `sim/common/nrun.c` and this moves the simulator to the common structure and that conflicts with the `sim/erc32/inferf.c` code. The `erc32 sim_open` is broken and needs to be fixed to return a real `SIM_DESC` and that needs to be filled in correct. An issue I am not sure about is now the inferior's memory access routines link up with the SIS view of memory. I suspect they would be separate pieces of memory.

Also the `sim/erc32` makes lots of `printf` calls and these needs to via GDB's filtered print calls. The direct `printf` calls break MI support.

---

**Author:** Trac Migrate 2016-03-16T04:51:02.000Z

---

In changeset 0bbd2de7f5306ad15ce544f9c3e9a5d9bb00dc85:

4.12: Patches for ERC simulator for gdb-7.11. The patches fix the endian checks in the simulator, print filtering, and the run command. Updates [#2644](#).

---

**Author:** Trac Migrate 2016-03-16T04:55:11.000Z

---

In changeset 08aa888205798b3416d24544fd06613fd683bb1e:

4.12/gdb-7.11: Add ERC32 patches to fix the simulator. Updates [#2644](#).

---

**Author:** Joel Sherrill 2016-03-16T14:48:04.000Z

---

sis command still does not work. Or I don't remember how to use it. :)

---

**Author:** Chris Johns 2016-03-16T19:55:36.000Z

---

What is the sis command?

**Author:** Chris Johns    2016-03-16T19:56:48.000Z

FYI I ran all the SIS and ERC32 tests in a single run. The results are:

```

1 Passed:    1062
2 Failed:     3
3 Timeouts:   3
4 Invalid:    0
5 -----
6 Total:     1068
7
8 Failures:
9 psxcancel.exe
10 psxcancel.exe
11 spcontext01.exe
12 Timeouts:
13 crypt01.exe
14 spcontext01.exe
15 crypt01.exe
16 Average test time: 0:00:00.667911
17 Testing time      : 0:11:53.329500

```

**Author:** Joel Sherrill    2016-11-14T16:34:00.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

**Author:** Trac Migrate    2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate    2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.847 2638 - pc386: ld -r issue with per function sections

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2638                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-03-10T21:47:37.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2638">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2638</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The pc386 BSP has an issue with “ld -r” when function-sections is enabled which does not seem to occur on any other BSP. The same lines were added to the custom .cfg file as on other BSPs. It is unknown at this point whether this is an x86 specific “ld -r” issue or a pc386 build configuration issue.

Per-function-section linking is disabled until this is addressed.

```
i386-rtems4.12-gcc -pipe -B.././.././.././lib/ -B.././.././.././pc386/lib/ -specs
bsp_specs -qrtems -mtune=i386 -O2 -g -ffunction-sections -fdata-sections -Wall -
Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-
externs -qnoassembler -nostdlib -r -Wl,-gc-sections -Wl,-Ttext,0x00100000 -o ne2000.rel
ne2000_rel-ne2000.o /data/home/joel/rtems-4.11-work/tools/4.12/bin/./lib/gcc/i386-
rtems4.12/6.0.0/./.././../i386-rtems4.12/bin/ld: gc-sections requires either an entry or an
undefined symbol collect2: error: ld returned 1 exit status
```

**Author:** Chris Johns 2016-03-10T23:08:44.000Z

I have seen patches from H,J Lu from Intel recently on binutils about -r. Maybe ask him.

**Author:** Joel Sherrill 2016-03-10T23:14:21.000Z

Good idea. I emailed binutils@ and hopefully we will get a hint.

**Author:** Trac Migrate 2016-03-11T22:08:25.000Z

- **Owner** set to Joel Sherrill <[joel@rtems.org](mailto:joel@rtems.org)>
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In changeset 5e368e8441e21e484a09e0d743a5b6b934e45047:

pc386: Fix linker usage issues with -r and function sections closes  
#2638.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.848 2634 - New warning in pc386 VESA driver

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2634                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-03-09T16:22:14.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:i386, bsp, priority::normal, resolution::fixed, tickettype::defect, version::5                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2634">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2634</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Pavel.. can you look into this?

```
./.././.././.././.././../rtems/c/src/lib/libbsp/i386/pc386/console/fb_vesa_rm.c: In function
'find_mode_using_EDID': ./.././.././.././.././../rtems/c/src/lib/libbsp/i386/pc386/console/fb_vesa_rm.c:502:13:
warning: dereferencing type-punned pointer will break strict-aliasing rules [-Wstrict-aliasing]
if ((uint16_t)&edid.STI[index] == EDID_STI_DescriptorUnused) ^ ~
```

- [correct-fb\\_vesa\\_rm-warning.diff](#)

**Author:** Trac Migrate 2016-03-09T19:51:08.000Z

- **Attachment** [correct-fb\\_vesa\\_rm-warning.diff](#) added

Proposed solution to make GCC happy and made code readable better than worse

**Author:** Trac Migrate 2016-03-09T19:53:24.000Z

Hello all, I have attached proposal for fixup. I have checked that it compiles against 4.11 without warning but I have not test that it by run of compiled code under QEMU. I need to find more time for that in some of next days.

**Author:** Joel Sherrill 2016-03-09T20:59:53.000Z

- **Cc** added @ppisa, @@chrisj



---

**Author:** Joel Sherrill 2016-03-09T21:03:07.000Z

---

Thanks. I don't know if I can test this or not.

The RSB build of qemu doesn't turn on the graphics module so I don't know if it hits this code or not. And from what my five minute at trying to turn it on made me think you needed Xen development files to use it and they were only available for 64-bit CentOS 6. If that's the case, the code isn't portable at all off of Linux so we should disable video, unfortunately.

The real PC I have been using to test on prints a message (from memory) that indicates it didn't initialize it or find it. Not sure which.

What setup is required to test this?

---

**Author:** Trac Migrate 2016-03-09T21:44:22.000Z

---

Hello Chris, I have minimal experience with RSB based RTEMS OS builds, but regular configure make builds of RTEMS is by default with VESA graphic support which can be then initialized at runtime by RTEMS kernel option `-video=auto`. This result in switch to graphic mode early in RTEMS boot. But you need some graphic application to open frame-buffer a draw to it. Regular standard output to video console does not emulate characters drawing/text mode yet. Initial version of such text mode emulation on graphic frame-buffer is implemented in experimental branch of RPi support only till now and is in shape that it could be adapted to be generic for more architectures.

I use Microwindows/Nano-X builds for testing (manual by RTEMS graphic toolkit `do_it -A`) or by RSB. Required packages recipes have been integrated to mainline RSB as a result of Qiao Yang GSoC project during 2015 autumn and previous work is already integrated to Micowindows mainline as well, so we can even switch scrips to use that directly instead of the Alex GSoC Microwindows fork. Microwindows demos can be run then on QEMU (VirtualBox not tested but should work too) a we have run some tests on real PC hardware during driver development as well.

Documentation for (now default) VESA configuration is there

<https://devel.rtems.org/wiki/Projects/GraphicsToolkit#RTEMS4.11andVESABIOSExtensionVBE>

RSB build of graphic libraries against regular configure make installed RTEMS in `/opt`

```
1 ../source-builder/sb-set-builder \\  
2 --log=graphic-build-log.txt \\  
3 --prefix=/opt/rtems4.11 \\  
4 --rtems-bsp=i386/pc686 \\  
5 --with-rtems-bsp=pc686 \\  
6 --pkg-tar-files \\  
7 4.11/graphics/graphics-all.bset
```

My QEMU command line

```

1 qemu-system-x86_64 -gdb tcp::1234 -enable-kvm -kernel $APP_BINARY \
2 -vga cirrus \
3 -net nic,vlan=0,model=e1000 -net user,vlan=0 \
4 -serial stdio \
5 -append "--console=com1 --video=auto"

```

where \$APP\_BINARY is RTEMS+application image.

I use serial output for messages and RTEMS standard output then and graphic frame-buffer for tested application.

Suitable QEMU (qemu-system-x86\_64 or qemu-system-i386) should be available in all GNU/Linux distributions.

---

**Author:** Trac Migrate 2016-03-09T22:04:38.000Z

---

I have tested patched 4.11 build with some of my experimental applications and video setup seems OK. I need build tool-chains and switch to 4.12, I have it on my TODO, but . . . .

---

**Author:** Joel Sherrill 2016-03-09T22:26:07.000Z

---

If you have tested this patch on 4.11, we should just apply it to both branches. You just seemed concern it would break something.

---

**Author:** Trac Migrate 2016-04-16T22:25:36.000Z

---

- **Owner** set to Pavel Pisa <ppisa@pikron.com>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset b752f9454fd412b0c4e3b15ee853afd4870ccc54:

i386/pc386: reimplemented check for unused EDID entry in fb\_vesa.c to suppress GCC 6 warning. closes [#2634](#)

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.849 2633 - waf build failed for rtems-libbsd

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2633                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-03-08T21:03:57.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | network, network::legacy, priority::normal, resolution::fixed, ticket-type::defect, version::4.11, version::4.12, version::5  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2633">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2633</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: joguin

The rtems-libbsd failed when building with waf. Here is the output:

```
[488/845]      Compiling      freebsd/sys/kern/subr_taskqueue.c      In      file
included      from      /home/josh/development/rtems/bsps/4.12/i386-
rtems4.12/pc386/lib/include/rtems/score/threadimpl.h:36:0,      from
../../freebsd/sys/kern/subr_sleepqueue.c:91: /home/josh/development/rtems/bsps/4.12/i386-
rtems4.12/pc386/lib/include/rtems/score/watchdogimpl.h:      In      function      '_Watch-
dog_Per_CPU_insert_relative':      /home/josh/development/rtems/bsps/4.12/i386-
rtems4.12/pc386/lib/include/rtems/score/watchdogimpl.h:356:18: error: 'struct <anony-
mous>' has no member named '_bsd_ticks'; did you mean 'ticks'? cpu->Watchdog.ticks
+ ticks ^ In file included from ../../freebsd/sys/kern/subr_sleepqueue.c:62:0:
../../freebsd/sys/kern/subr_sleepqueue.c:      In      function      'sleepq_set_timeout':
../../freebsd/sys/kern/subr_sleepqueue.c:424:29: error: 'Thread_Timer_information {aka
struct <anonymous>}' has no member named 'state' BSD_ASSERT(executing->Timer.state
== WATCHDOG_INACTIVE); ^ ../../freebsd/sys/kern/subr_sleepqueue.c:424:2: note:
in expansion of macro 'BSD_ASSERT' BSD_ASSERT(executing->Timer.state == WATCH-
DOG_INACTIVE); ^~~~~~ ../../freebsd/sys/kern/subr_sleepqueue.c:425:2: error:
too many arguments to function '_Watchdog_Initialize' _Watchdog_Initialize(&executing-
>Timer,      sleepq_timeout,      ^~~~~~ In
file      included      from      /home/josh/development/rtems/bsps/4.12/i386-
rtems4.12/pc386/lib/include/rtems/score/threadimpl.h:36:0,      from
../../freebsd/sys/kern/subr_sleepqueue.c:91: /home/josh/development/rtems/bsps/4.12/i386-
rtems4.12/pc386/lib/include/rtems/score/watchdogimpl.h:178:27: note: declared here
RTEMS_INLINE_ROUTINE void _Watchdog_Initialize( ^~~~~~
```

Waf: Leaving directory `/home/josh/development/rtems/rtems-libbsd/build/i386-rtems4.12-pc386` Build failed

**Author:** Joel Sherrill 2016-03-08T21:33:30.000Z

Original author: joguin

- **Milestone** changed from `%”4.11.1”` to `%”4.12”`
- **Version** changed from `~”4.11”` to `~”4.12”`

---

**Author:** Joel Sherrill 2016-03-08T21:34:16.000Z

---

Original author: joguin

Most likely a side-effect of the recent watchdog change to RBTREE.

---

**Author:** Trac Migrate 2016-03-08T23:21:52.000Z

---

Original author: joguin

Yes, I had no time to update this since I am on a business trip this week.

---

**Author:** Trac Migrate 2016-03-08T23:22:04.000Z

---

Original author: joguin

- **Status** changed from *new* to *accepted*

---

**Author:** Joel Sherrill 2016-03-08T23:32:32.000Z

---

Original author: joguin

- **Cc** added @@chrisj

---

**Author:** Joel Sherrill 2016-03-08T23:33:25.000Z

---

Original author: joguin

Chris pointed out that this means that unless the code as written is specific to 4.11. Thus it may be necessary to create a 4.11 branch at this point.

Hmm.. It has a 4.11 branch. Is it in sync as much as possible with the master?

---

**Author:** Trac Migrate 2016-03-14T08:32:12.000Z

---

Original author: joguin

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

[a336c4630161a6e5a3742c1430564d5566cafa58/rtems-libbsd]

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: joguin

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: joguin

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.850 2632 - rtems-tester failure

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2632                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2016-03-07T22:54:28.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::highest, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::4.11                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2632">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2632</a> |
| <b>Merges</b>      | 0                                                                                                                             |

CentOS 7 on master

```
$ ../rtems-tools/tester/rtems-test -rtems-tools=/home/joel/rtems-4.11-work/tools/4.12
-rtems-bsp=sis find . -name "*hello.exe" RTEMS Testing - Tester, 4.12 (a5d243d3f8e2)
Command Line: ../rtems-tools/tester/rtems-test -rtems-tools=/home/joel/rtems-4.11-
work/tools/4.12 -rtems-bsp=sis ./sparc-rtems4.12/c/sis/testsuites/samples/hello/hello.exe
Python: 2.7.5 (default, Nov 20 2015, 02:00:19) [GCC 4.8.5 20150623 (Red Hat 4.8.5-4)]
[1/1] p:0 f:0 t:0 i:0 | sparc/sis: hello.exe Traceback (most recent call last): File "../rtems-
tools/tester/rtems-test", line 40, in <module> rt.test.run() File "/data/home/joel/rtems-4.11-
work/rtems-tools/tester/rt/test.py", line 287, in run tst.reraise() File "/data/home/joel/rtems-
4.11-work/rtems-tools/tester/rt/test.py", line 123, in reraise raise (self.result[0], self.result[1],
self.result[2]) TypeError: __init__() takes exactly 2 arguments (1 given)
```

---

**Author:** Chris Johns 2016-03-16T06:30:12.000Z

---

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.851 2631 - Use an ISR lock to protect the state of Classic Rate Monotonic objects

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2631                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-03-07T07:38:12.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::4.10                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2631">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2631</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The state of Classic Rate Monotonic is currently protected by the Giant lock and ISR disable sections. Use a per-object ISR lock to protect state changes instead.

**Author:** Trac Migrate 2016-03-22T06:28:14.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 90960bd11a91259d9aace3870692dbe2e227de0f:

rtems: Rework rate-monotonic scheduler Use the default thread lock to protect rate-monotonic state changes. This avoids use of the Giant lock. Split `rtems_rate_monotonic_period()` body into several static functions. Introduce a new thread wait class `THREAD_WAIT_CLASS_PERIOD` for period objects to synchronize the blocking operation. Close [#2631](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.852 2627 - Fix CPU time used for threads on SMP

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2627                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-03-07T07:16:14.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::4.10                                |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2627">https://gitlab.rtems.org/rtems/rtems/-/issues/2627</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The CPU time used of a thread is currently maintained per-processor mostly during `_Thread_Dispatch()`. However, on SMP configurations the actual processor of a thread is difficult to figure out since thread dispatching is a highly asynchronous process (e.g. via inter-processor interrupts). Only the intended processor of a thread is known to the scheduler easily. Do the CPU usage accounting during thread heir updates in the context of the scheduler operations. Provide a function to get the CPU usage of a thread using proper locks to get a consistent value.

**Author:** Chris Johns 2016-03-08T00:03:16.000Z

Original author: sebastian.huber

SMP introduces new challenges for users building applications.

I am struggling to understand what **standard** support RTEMS has for threads and processor performance accounting. When I last looked a while ago I found I needed to turn on profiling to get anything and I feel creating a special build is not a great option for some basic or **standard** performance accounting.

What do we consider as important?

Do we have things like context switches per core? Core idle time?

**Author:** Trac Migrate 2016-03-09T06:50:03.000Z

Original author: sebastian.huber

The profiling is optional since it may severely impact the performance of the operating system. Some SMP chips are not really well designed and offer no processor private access to timer and counter modules. Instead you must use on-chip peripheral over the system bus.

Adding some counters shouldn't be a big deal, but please create a new ticket for this. This ticket is about fixing an existing statistic so that it works on SMP.

Determining the per-processor idle time is difficult with the global fixed priority schedulers if they manage more than one processor and I don't think this value is interesting.

---

**Author:** Chris Johns 2016-03-09T21:26:43.000Z

---

Original author: sebastian.huber

Replying to [sebastian.huber](#):

The profiling is optional since it may severely impact the performance of the operating system. Some SMP chips are not really well designed and offer no processor private access to timer and counter modules. Instead you must use on-chip peripheral over the system bus.

Yes I agree profiling is not a normal user activity and may place extra demands on the system. We need to track this variant with buildbot.

Adding some counters shouldn't be a big deal, but please create a new ticket for this. This ticket is about fixing an existing statistic so that it works on SMP.

Good idea, I will do this.

Determining the per-processor idle time is difficult with the global fixed priority schedulers if they manage more than one processor and I don't think this value is interesting.

Maybe the stats collected are per scheduler and reflect what is important.

---

**Author:** Trac Migrate 2016-03-17T08:03:12.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset d37adfe5dd82cc3c933eb521b8f800c342af0e52:

score: Fix CPU time used by executing threads The CPU time used of a thread was previously maintained per-processor mostly during `_Thread_Dispatch()`. However, on SMP configurations the actual processor of a thread is difficult to figure out since thread dispatching is a highly asynchronous process (e.g. via inter-processor interrupts). Only the intended processor of a thread is known to the scheduler easily. Do the CPU usage accounting during thread heir updates in the context of the scheduler operations. Provide the function `_Thread_Get_CPU_time_used()` to get the CPU usage of a thread using proper locks to get a consistent value. Close [#2627](#).

---

**Author:** Trac Migrate 2016-03-22T06:28:38.000Z

---



Original author: sebastian.huber

In changeset baa1362643f20781db1d50a5a4d23e7069d0972a:

score: Fix for RTEMS\_DEBUG Update [#2627](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.853 2626 - Unify thread cancel/join and delete

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2626                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-03-07T07:11:26.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::4.10                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2626">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2626</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The `rtems_task_delete()` is basically a `pthread_cancel()` plus `pthread_join()`. Unify the implementation and introduce a `_Thread_Cancel()` and `_Thread_Join()` to be used by both APIs. Get rid of the Giant lock for thread delete.

**Author:** Trac Migrate 2016-05-20T05:56:47.000Z

Original author: sebastian.huber

In changeset e75374870375099eb097f189905be709008fb3c0:

score: Delete redundant thread life enums This makes it easier to add more states in the future. Update [#2555](#). Update [#2626](#).

**Author:** Trac Migrate 2016-05-20T05:56:57.000Z

Original author: sebastian.huber

In changeset b7f5e391c0c0e94e5958a294e5d38b1dda7332cc:

score: Add `_Thread_Exit()` The goal is to make `_Thread_Exit()` a no-return function in follow up patches. Update [#2555](#). Update [#2626](#).

---

**Author:** Trac Migrate 2016-05-20T05:57:07.000Z

---

Original author: sebastian.huber

In changeset 270394eef82ae584477cb9c443d4a5c8e67978eb:

score: Avoid superfluous life protection Disable thread dispatching is enough to prevent deletion of the executing thread. There is no need for an additional life protection. Update [#2555](#). Update [#2626](#).

---

**Author:** Trac Migrate 2016-05-20T05:57:17.000Z

---

Original author: sebastian.huber

In changeset 69c722f3f6ac84eca42e68eda0e1ed63fd3702e7:

score: Delete unused variable Update [#2555](#). Update [#2626](#).

---

**Author:** Trac Migrate 2016-05-20T05:57:27.000Z

---

Original author: sebastian.huber

In changeset 9949d8a7d042da7ba53516300db5c34c8b9c8a31:

score: Add `Thread_Change_life()` Add `_Thread_Change_life_locked()` as a general function to alter the thread life state. Use it to implement `_Thread_Set_life_protection()` as a first step. Update [#2555](#). Update [#2626](#).

---

**Author:** Trac Migrate 2016-05-20T05:57:37.000Z

---

Original author: sebastian.huber

In changeset 7023d82ca6bdf7e0fa1d1c10481671dd744d894:

score: Add `_Thread_Raise_real_priority()` Update [#2555](#). Update [#2626](#).

---

**Author:** Trac Migrate 2016-05-20T05:57:47.000Z

---

Original author: sebastian.huber

In changeset c99eb50b9f66e76cdd6aa0833321550c9b9e655c:

score: Rework `_Thread_Exit()` Rework `_Thread_Exit()` to use `_Thread_Change_life_locked()`. Update [#2555](#). Update [#2626](#).

---

**Author:** Trac Migrate 2016-05-20T05:57:57.000Z

---

Original author: sebastian.huber

In changeset 232147ddc12d45ff7872f72a790077c26fe5ca0a:

score: Add `_Thread_Join()` and `_Thread_Cancel()` Split `_Thread_Close()` into `_Thread_Join()` and `_Thread_Cancel()` to prepare for a re-use in `pthread_join()` and `pthread_cancel()`. Update [#2555](#). Update [#2626](#).

---

**Author:** Trac Migrate 2016-05-20T05:58:07.000Z

---

Original author: sebastian.huber

In changeset 9a99ce15d0878d847b4c7e054eb2996a9f5fbc34:

score: Add `_Thread_Set_state_locked()` This makes it possible to do thread state and thread life changes together under protection of the thread state lock. Update [#2555](#). Update [#2626](#).

---

**Author:** Trac Migrate 2016-05-20T05:58:17.000Z

---

Original author: sebastian.huber

In changeset f410ea82a4b9d5609ce170d2aa09027b5a7c4c50:

score: Add `_Thread_Clear_state_locked()` This makes it possible to do thread state and thread life changes together under protection of the thread state lock. Update [#2555](#). Update [#2626](#).

---

**Author:** Trac Migrate 2016-05-20T05:58:27.000Z

---

Original author: sebastian.huber

In changeset 0475cca9a015a7b43209270ca6e40aebf177639a:

score: Add `_Thread_Dispatch_disable_with_CPU()` Update [#2555](#). Update [#2626](#).

---

**Author:** Trac Migrate 2016-05-20T05:58:37.000Z

---

Original author: sebastian.huber

In changeset 938839077741d2eac82d9d86705c16e0b9de8379:

score: Split `_Thread_Restart()` Split `_Thread_Restart()` into `_Thread_Restart_self()` and `_Thread_Restart_other()`. Move content of existing `_Thread_Restart_self()` into new `_Thread_Restart_self()`. Avoid Giant lock for thread restart. `_Thread_Restart_self()` is a no-return function and used by `_Thread_Global_construction()`. Update [#2555](#). Update [#2626](#).

---

**Author:** Trac Migrate 2016-05-20T05:58:47.000Z

---

Original author: sebastian.huber

In changeset 862a0eeb1197539c0e69381cb5aacb9e1c64c0f:

score: Rework `_Thread_Restart_other()` Rework  
`_Thread_Restart_other()` to use `_Thread_Change_life_locked()`. Cope  
with concurrent change requests by means of a pending request counter.  
Update #2555. Update #2626.

---

**Author:** Trac Migrate 2016-05-20T05:58:58.000Z

---

Original author: sebastian.huber

In changeset ef09017ebb6ac9c1309df4e827b240c14e6dbaa9:

score: Rework `_Thread_Cancel()` Rework `_Thread_Cancel()` to use  
`_Thread_Change_life_locked()`. Update #2555. Update #2626.

---

**Author:** Trac Migrate 2016-05-20T05:59:08.000Z

---

Original author: sebastian.huber

In changeset 29e1ecab875c3121357f27e0676913d9ca96183f:

score: Simplify `_Thread_Life_action_handler()` Use  
`_Thread_Change_life_locked()` to avoid duplicated code. Avoid Gi-  
ant lock in `_Thread_Life_action_handler()`. Update #2555. Update  
#2626.

---

**Author:** Trac Migrate 2016-05-20T05:59:18.000Z

---

Original author: sebastian.huber

In changeset 54550e048d3a49435912797d2024f80671e93267:

posix: Rework `pthread_join()` Rework `pthread_join()` to use  
`_Thread_Join()`. Close #2402. Update #2555. Update #2626.  
Close #2714.

---

**Author:** Trac Migrate 2016-05-20T05:59:39.000Z

---

Original author: sebastian.huber

In changeset da82656065d09f7b6aa411ba361287afdd787204:

posix: Rework thread cancellation Add  
`Thread_Life_state::THREAD_LIFE_CHANGE_DEFERRED` and rework  
the POSIX thread cancellation to use the thread life states. Update  
#2555. Update #2626.

---

**Author:** Trac Migrate 2016-05-20T06:18:58.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.854 2625 - Use one lookup tree per-thread for the POSIX keys

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2625                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-03-07T07:06:25.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::4.10              |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2625">https://gitlab.rtems.org/rtems/rtems/-/issues/2625</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Currently a global lookup tree is used for all the POSIX key/value pairs. On SMP configurations this is a bottleneck. Use one lookup tree per thread instead.

---

**Author:** Trac Migrate 2016-03-18T06:47:40.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 5eaf0e7458bac80ba669f03c4feaae5bad55c6c9:

posix: Use per-thread lookup tree for POSIX Keys Yields higher performance on SMP systems. Close [#2625](#).

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”4.12.0”

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.855 2617 - rtems\_heap\_allocate\_aligned\_with\_boundary() body and prototype inconsistent

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2617                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-03-01T00:24:40.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::5                                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2617">https://gitlab.rtems.org/rtems/rtems/-/issues/2617</a> |
| <b>Merges</b>      | 0                                                                                                                   |

The first parameter is `size_t` in the `.h` and `uintptr_t` in the body. This resulted in a compiler error on the m32c. But it is an inconsistency which should be fixed even if no architecture complained.

The `malloc.h` header file has this:

```
void *rtems_heap_allocate_aligned_with_boundary( size_t size, uintptr_t alignment, uintptr_t
boundary );
```

`malloc_deferred.c` has this:

```
void *rtems_heap_allocate_aligned_with_boundary( uintptr_t size, uintptr_t alignment,
uintptr_t boundary )
```

---

**Author:** Trac Migrate 2016-03-01T06:36:06.000Z

---

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In changeset 75518fb78240dbab92fc9d959765639afb32a457:

malloc: Fix function definition Close [#2617](#).

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2017-05-11T07:31:02.000Z |
|-----------------------------|--------------------------|

- **Milestone** changed from %"4.12" to %"4.12.0"

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2017-11-09T06:27:14.000Z |
|-----------------------------|--------------------------|

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.856 2606 - alarm() uses seconds watchdog and thus is affected by clock changes

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2606                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-02-22T07:49:18.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | api::posix, priority::normal, resolution::fixed, tickettype::defect, version::4.10                                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2606">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2606</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

alarm() uses `_Watchdog_Insert_seconds()` and thus is affected by clock changes, e.g. via `_TOD_Set()`. This is wrong. The POSIX documentation is not that clear since it talks only about "realtime seconds". However, the FreeBSD implementation uses the uptime. This is also in line with the RTEMS `ualarm()` and `nanosleep()`.

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2016-02-22T08:17:07.000Z |
|-----------------------------|--------------------------|

Original author: sebastian.huber

In changeset 452f6ba9d193e0937f94432459c74122ea345e74:

psxtests/psxalarm01: Add adjtime() test case Update [#2606](#).

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2016-02-22T13:08:54.000Z |
|-----------------------------|--------------------------|

Original author: sebastian.huber

- **Status** changed from *new* to *accepted*

**Author:** Trac Migrate 2016-03-04T14:01:04.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

[03b900d3ed120ea919ea3eded7edbece3488cff3/rtems]

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.857 2560 - smdk2410 is broken due to gp32 removal

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2560                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-02-04T06:25:44.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:arm, bsp, priority::normal, resolution::fixed, tickettype::defect, version::5                                  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2560">https://gitlab.rtems.org/rtems/rtems/-/issues/2560</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The smdk2410 BSPs use files of the removed gp32 BSP.

[f2a228b2cb5ce376c56ae8d767084b92f2822af0/rtems]

**Author:** Trac Migrate 2016-10-03T01:31:26.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"



- **Status** changed from *new* to *closed*

Just ran a fresh compile of smdk2410 and everything looks fine. All tests compile fine. I'm closing this for now.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.858 2556 - Implement the O(m) Independence-Preserving Protocol (OMIP)

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2556                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-01-27T08:45:27.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::high, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::4.12                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2556">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2556</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

#### Background

The O(m) Independence-Preserving Protocol (**OMIP**) is a generalization of the priority inheritance protocol to clustered scheduling which avoids the non-preemptive sections present with priority boosting. The *m* denotes the number of processors in the system. Its implementation requires an extension of the scheduler helping protocol already used for the [MrsP](MrsP) (<http://www-users.cs.york.ac.uk/~burns/MRSPpaper.pdf>) semaphores. However, the current implementation of the scheduler helping protocol has two major issues, see Catellani, Sebastiano, Luca Bonato, Sebastian Huber, and Enrico Mezzetti: Challenges in the Implementation of MrsP. In Reliable Software Technologies - Ada-Europe 2015, pages 179–195, 2015. Firstly, the run-time of some scheduler operations depend on the size of the resource dependency tree. Secondly, the scheduler operations of threads which don't use shared resources must deal with the scheduler helping protocol in case an owner of a shared resource is somehow involved.

To illustrate the second issue, let us look at the following example. We have a system with eight processors and two L2 caches. We assign processor 0 to a partition P for latency sensitive real-time tasks (e.g. sensor and actuator handling), processors 1, 2 and 3 are assigned to a cluster C<sub>A</sub>, and the remaining processors are assigned to a cluster C<sub>B</sub>, for soft real-time worker tasks. The worker tasks use a shared resource, e.g. a file system for data storage. Let us suppose a task R of partition P sends a message to the workers. This may make a waiting worker ready, which in turn pre-empts the owner of a shared resource. In this case the scheduler helping protocol takes action and is carried out by the task R. This contradicts the intended isolation of scheduler instances.

The reason for this unfortunate coupling is a design issue of the scheduler helping protocol implementation. Some scheduler operations may return a thread in need of help. For example, if a thread is unblocked which pre-empts an owner of a shared resource, then the pre-empted thread is returned. Once a thread in need of help is returned, the ask for help operation of the scheduler is executed. An alternative to this return value based approach is the introduction of a pre-emption intervention during thread dispatching. Threads taking part in the scheduler helping protocol indicate this with a positive resource count value. In case a thread dispatch occurs and pre-empts an owner of a shared resource, the scheduler ask for help operation is invoked. So, the work is carried out on behalf of the thread which takes part in the scheduler helping protocol.

To overcome the first issue, an improved resource dependency tracking is required. One approach is to use a recursive red-black tree based data structure, see [#2412](#).

## Implementation

There are several steps necessary to implement OMIP. \* Introduce per-scheduler locks. \* Enable context switches with interrupts enabled. \* Add a pre-emption intervention to the thread dispatch. \* Add a table for priority nodes to the thread control block. For each scheduler instance there is one priority node. \* Update the table in case the thread blocks on a resource, a timeout while waiting for a resource occurs, or ownership of a resource is transferred to the thread. \* Use this table in the pre-emption intervention. \* Update the MrsP implementation to the new infrastructure.

Currently, only one scheduler lock for all scheduler instances is used. This simplified the MrsP implementation and due to the presence of a Giant lock, this was not an issue. With the elimination of the Giant lock, however, we need one scheduler lock per scheduler instance to really profit from a decoupled system due to clustered scheduling.

The current implementation of thread dispatching has some implications with respect to the interrupt latency. It is crucial to preserve the system invariant that a thread can execute on at most one processor in the system at a time. This is accomplished with a boolean indicator in the thread context. The processor architecture specific context switch code will mark that a thread context is no longer executing and waits that the heir context stopped execution before it restores the heir context and resumes execution of the heir thread (the boolean indicator is basically a TTAS lock). So, there is one point in time in which a processor is without a thread. This is essential to avoid cyclic dependencies in case multiple threads migrate at once. Otherwise some supervising entity is necessary to prevent deadlocks. Such a global supervisor would lead to scalability problems so this approach is not used. Currently the context switch is performed with interrupts disabled. Thus in case the heir thread is currently executing on another processor, the time of disabled interrupts is prolonged since one processor has to wait for another processor to make progress.

If we add pre-emption intervention to the thread dispatch sequence, then there is an even

greater need to avoid this issue with the interrupt latency. Interrupts normally store the context of the interrupted thread on its stack. In case a thread is marked as not executing, we must not use its thread stack to store such an interrupt context. We cannot use the heir stack before it stopped execution on another processor. If we enable interrupts during this transition, then we have to provide an alternative thread independent stack for interrupts in this time frame.

The pre-emption intervention should be added to `_Thread_Do_dispatch()` before the heir is read and perform the following pseudo-code actions.

```

1 pre_emption_intervention(executing):
2 if executing.resource_count > 0:
3   executing.lock()
4   if executing.is_ready():
5     for scheduler in executing.schedulers:
6       scheduler.lock()
7       if !executing.is_scheduled():
8         for scheduler in executing.schedulers:
9           scheduler.ask_for_help(executing)
10        for scheduler in executing.schedulers:
11          scheduler.unlock()
12      else if executing.active_help_level > 0:
13        idle.use(executing.scheduler_node)
14      executing.unlock()

```

The scheduler help operation affects multiple scheduler instances. In terms of locking we have only two options, \* use a global scheduler lock, or \* obtain multiple per-scheduler locks at once. A global scheduler lock is not an option. To avoid deadlocks obtain the per-scheduler locks in a fixed order. However, in this case the per-scheduler locks will observe different worst-case and average-case acquire times (depending on the order).

Use a recursive data structure to determine the highest priority available to a thread for each scheduler instance, e.g.

```

1 typedef struct Thread_Priority_node {
2   Priority_Control current_priority;
3   Priority_Control real_priority;
4   struct Thread_Priority_node *owner;
5   RBTNode Node;
6   RBTControl Inherited_priorities;
7 } Thread_Priority_node;
8
9 typedef struct {
10  ...
11  Thread_Priority_node *priority_nodes; /* One per scheduler instances */
12  ...
13 } Thread_Control;

```

Initially a thread has a priority node reflecting its real priority. The `Thread_Priority_node::owner` is NULL. The `Thread_Priority_node::current_priority` is set to the real priority. The `Thread_Priority_node::Inherited_priorities` is empty.

In case the thread must wait for ownership of a mutex, then it enqueues its priority node in `Thread_Priority_node::Inherited_priorities` of the mutex owner.

In case the thread is dequeued from the wait queue of a mutex, then it dequeues its priority node in `Thread_Priority_node::Inherited_priorities` of the previous mutex owner (ownership transfer) or the current mutex owner (acquire timeout).

In case the minimum of the `Thread_Priority_node::real_priority` and the `Thread_Priority_node::Inherited_priorities` changes, then `Thread_Priority_node::current_priority` is updated. In case the `Thread_Priority_node::owner` is not NULL, the priority change propagates to the owner, and so on. In case `Thread_Priority_node::current_priority` changes, the corresponding scheduler is notified.

Use the thread lock to protect the priority nodes.

- [help.png](#)
- [resource.png](#)

**Author:** Trac Migrate 2016-01-27T08:46:27.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 = Background =
2
3 The O(m) Independence-Preserving Protocol ([OMIP](http://www.mpi-sws.
  ↳org/~bbb/papers/pdf/ecrts13b.pdf)) is a generalization of the
  ↳priority inheritance protocol to clustered scheduling which avoids
  ↳the non-preemptive sections present with priority boosting. The m
  ↳denotes the number of processors in the system. Its implementation
  ↳requires an extension of the scheduler helping protocol already used
  ↳for the [MrsP](MrsP)(http://www-users.cs.york.ac.uk/~burns/MRSPpaper.
  ↳pdf) semaphores. However, the current implementation of the
  ↳scheduler helping protocol has two major issues, see Catellani,
  ↳Sebastiano, Luca Bonato, Sebastian Huber, and Enrico Mezzetti:
  ↳Challenges in the Imple- mentation of MrsP. In Reliable Software
  ↳Technologies - Ada-Europe 2015, pages 179\ |md_0_8211|\ 195, 2015.
  ↳Firstly, the run-time of some scheduler operations depend on the size
  ↳of the resource dependency tree. Secondly, the scheduler operations
  ↳of threads which don't use shared resources must deal with the
  ↳scheduler helping protocol in case an owner of a shared resource is
  ↳somehow involved.
4
5 - To illustrate the second issue, let us look at the following example.
  ↳ We have a system with eight processors and two L2 caches. We assign
  ↳processor 0 to a partition P for latency sensitive real-time tasks (e.
  ↳g. sensor and actuator handling), processors 1, 2 and 3 are assigned
  ↳to a cluster C,,A,, and the remaining processors are assigned to a
  ↳cluster C,,B,, for soft real-time worker tasks. The worker tasks
  ↳use a shared resource, e.g. a file system for data storage. Let us
  ↳suppose a task R of partition P sends a message to the workers. This

```

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↪ may make a waiting worker ready, which in turn pre-empts the owner of  
 ↪ a shared resource. In this case the scheduler helping protocol takes  
 ↪ action and is carried out by the task R. This contradicts the  
 ↪ intended isolation of scheduler instances.

6 ?

↪  
 ↪  
 ↪  
 ↪  
 ↪  
 ↪ -

7

8 + To illustrate the second issue, let us look at the following example.

↪ We have a system with eight processors and two L2 caches. We assign  
 ↪ processor 0 to a partition P for latency sensitive real-time tasks (e.  
 ↪ g. sensor and actuator handling), processors 1, 2 and 3 are assigned  
 ↪ to a cluster C,,A,, and the remaining processors are assigned to a  
 ↪ cluster C,,B,, for soft real-time worker tasks. The worker tasks use  
 ↪ a shared resource, e.g. a file system for data storage. Let us  
 ↪ suppose a task R of partition P sends a message to the workers. This  
 ↪ may make a waiting worker ready, which in turn pre-empts the owner of  
 ↪ a shared resource. In this case the scheduler helping protocol takes  
 ↪ action and is carried out by the task R. This contradicts the  
 ↪ intended isolation of scheduler instances.

9

10 The reason for this unfortunate coupling is a design issue of the

↪ scheduler helping protocol implementation. Some scheduler operations  
 ↪ may return a thread in need of help. For example, if a thread is  
 ↪ unblocked which pre-empts an owner of a shared resource, then the pre-  
 ↪ empted thread is returned. Once a thread in need of help is returned,  
 ↪ the ask for help operation of the scheduler is executed. An  
 ↪ alternative to this return value based approach is the introduction  
 ↪ of a pre-emption intervention during thread dispatching. Threads  
 ↪ taking part in the scheduler helping protocol indicate this with a  
 ↪ positive resource count value. In case a thread dispatch occurs and  
 ↪ pre-empts an owner of a shared resource, the scheduler ask for help  
 ↪ operation is invoked. So, the work is carried out on behalf of the  
 ↪ thread which takes part in the scheduler helping protocol.

11

12 To overcome the first issue, an improved resource dependency tracking

↪ is required. One approach is to use a recursive red-black tree based  
 ↪ data structure, see #2412.

13

14 = Implementation =

15

16 There are several steps necessary to implement OMIP.

17 \* Introduce per-scheduler locks.

18 \* Enable context switches with interrupts enabled.

19 \* Add a pre-emption intervention to the thread dispatch.

20 \* Add a table for priority nodes to the thread control block. For each

(continues on next page)

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```

    ↪ scheduler instance there is one priority node.
21 * Update the table in case the thread blocks on a resource, a timeout_
    ↪ while waiting for a resource occurs, or ownership of a resource is_
    ↪ transferred to the thread.
22 * Use this table in the pre-emption intervention.
23 * Update the MrsP implementation to the new infrastructure.
24
25 Currently, only one scheduler lock for all scheduler instances is used._
    ↪ This simplified the MrsP implementation and due to the presence of a_
    ↪ Giant lock, this was not an issue. With the elimination of the Giant_
    ↪ lock, however, we need one scheduler lock per scheduler instance to_
    ↪ really profit from a decoupled system due to clustered scheduling.
26
27 The current implementation of thread dispatching has some implications_
    ↪ with respect to the interrupt latency. It is crucial to preserve the_
    ↪ system invariant that a thread can execute on at most one processor_
    ↪ in the system at a time. This is accomplished with a boolean_
    ↪ indicator in the thread context. The processor architecture specific_
    ↪ context switch code will mark that a thread context is no longer_
    ↪ executing and waits that the heir context stopped execution before it_
    ↪ restores the heir context and resumes execution of the heir thread_
    ↪ (the boolean indicator is basically a TTAS lock). So, there is one_
    ↪ point in time in which a processor is without a thread. This is_
    ↪ essential to avoid cyclic dependencies in case multiple threads_
    ↪ migrate at once. Otherwise some supervising entity is necessary to_
    ↪ prevent deadlocks. Such a global supervisor would lead to_
    ↪ scalability problems so this approach is not used. Currently the_
    ↪ context switch is performed with interrupts disabled. Thus in case_
    ↪ the heir thread is currently executing on another processor, the time_
    ↪ of disabled interrupts is prolonged since one processor has to wait_
    ↪ for another processor to make progress.
28
29 If we add pre-emption intervention to the thread dispatch sequence,_
    ↪ then there is an even greater need to avoid this issue with the_
    ↪ interrupt latency. Interrupts normally store the context of the_
    ↪ interrupted thread on its stack. In case a thread is marked as not_
    ↪ executing, we must not use its thread stack to store such an_
    ↪ interrupt context. We cannot use the heir stack before it stopped_
    ↪ execution on another processor. If we enable interrupts during this_
    ↪ transition, then we have to provide an alternative thread independent_
    ↪ stack for interrupts in this time frame.
30
31 The pre-emption intervention should be added to `_Thread_Do_dispatch()`_
    ↪ before the heir is read and perform the following pseudo-code actions.
32 {{{
33 pre_emption_intervention(executing):
34 if executing.resource_count > 0:
35     executing.lock()
36 if executing.is_ready():

```

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```

37 for scheduler in executing.schedulers:
38     scheduler.lock()
39     if !executing.is_scheduled():
40         for scheduler in executing.schedulers:
41             scheduler.ask_for_help(executing)
42         for scheduler in executing.schedulers:
43             scheduler.unlock()
44     else if executing.active_help_level > 0:
45         idle.use(executing.scheduler_node)
46     executing.unlock()
47 }}}

```

48 The scheduler help operation affects multiple scheduler instances. In\_
 ↪ terms of locking we have only two options,
 49 \* use a global scheduler lock, or
 50 \* obtain multiple per-scheduler locks at once.
 51 A global scheduler lock is not an option. To avoid deadlocks obtain\_
 ↪ the per-scheduler locks in a fixed order. However, in this case the\_
 ↪ per-scheduler locks will observe different worst-case and average-
 ↪ case acquire times (depending on the order).
 52
 53 Use a recursive data structure to determine the highest priority\_
 ↪ available to a thread for each scheduler instance, e.g.
 54 {{{
 55 typedef struct Thread\_Priority\_node {
 56 Priority\_Control current\_priority;
 57 Priority\_Control real\_priority;
 58 struct Thread\_Priority\_node \*owner;
 59 RBTNode Node;
 60 RBTControl Inherited\_priorities;
 61 } Thread\_Priority\_node;
 62
 63 typedef struct {
 64 ...
 65 Thread\_Priority\_node \*priority\_nodes; /\* One per scheduler instances \*/
 66 ...
 67 } Thread\_Control;
 68 }}}
 69
 70 Initially a thread has a priority node reflecting its real priority.\_
 ↪ The `Thread\_Priority\_node::owner` is `NULL`. The `Thread\_Priority\_
 ↪ node::current\_priority` is set to the real priority. The `Thread\_
 ↪ Priority\_node::Inherited\_priorities` is empty.
 71
 72 In case the thread must wait for ownership of a mutex, then it enqueues\_
 ↪ its priority node in `Thread\_Priority\_node::Inherited\_priorities` of\_
 ↪ the mutex owner.
 73
 74 In case the thread is dequeued from the wait queue of a mutex, then it\_
 ↪ dequeues its priority node in `Thread\_Priority\_node::Inherited\_

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```

75 ↪priorities` of the previous mutex owner (ownership transfer) or the
76 ↪current mutex owner (acquire timeout).
77
78 In case the minimum of the `Thread_Priority_node::real_priority` and
  ↪the `Thread_Priority_node::Inherited_priorities` changes, then
  ↪`Thread_Priority_node::current_priority` is updated. In case the
  ↪`Thread_Priority_node::owner` its not `NULL`, the priority change
  ↪propagates to the owner, and so on. In case `Thread_Priority_
  ↪node::current_priority` changes, the corresponding scheduler is
  ↪notified.
77
78 Use the thread lock to protect the priority nodes.

```

**Author:** Trac Migrate 2016-01-27T08:49:03.000Z

Original author: sebastian.huber

- Attachment [resource.png](#) added

**Author:** Trac Migrate 2016-01-27T08:49:16.000Z

Original author: sebastian.huber

- Attachment [help.png](#) added

**Author:** Trac Migrate 2016-01-27T08:52:02.000Z

Original author: sebastian.huber

!`resource.png, center, 60% <<https://gitlab.rtems.org/-/project/uploads/migrated/resource.png>, center, 60%>`\_ This is an example resource dependency tree with sixteen threads t0 up to t15 and sixteen resources r0 up to r15. The root of this tree is t0. The thread t0 owns the resources r0, r1, r2, r3, r6, r11 and r12 and is in the ready state. The threads t1 up to t15 wait directly or indirectly via resources owned by t0 and are in a blocked state. The colour of the thread nodes indicate the scheduler instance.

**Author:** Trac Migrate 2016-01-27T08:54:45.000Z

Original author: sebastian.huber

!`help.png, center, 90% <<https://gitlab.rtems.org/-/project/uploads/migrated/help.png>, center, 90%>`\_ This is an example of a table of priority nodes with sixteen threads t0 up to t15 and three scheduler instances s0 up to s2 corresponding to the previous example. The overall resource owner is t0. The colour of the nodes indicate the scheduler instance. Several threads of different scheduler instances depend on thread t10. So, the thread t10 contributes for example the highest priority



node of scheduler instance s2 to thread t0 even though it uses scheduler instance s0.

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**Author:** Trac Migrate 2016-02-04T12:00:29.000Z

---

Original author: sebastian.huber

- **Status** changed from *new* to *accepted*

---

**Author:** Trac Migrate 2016-05-12T11:34:06.000Z

---

Original author: sebastian.huber

In changeset 6e4f929296b1cfd50fc8f41f117459e65214b816:

score: Introduce thread state lock Update [#2556](#).

---

**Author:** Trac Migrate 2016-05-20T14:13:25.000Z

---

Original author: sebastian.huber

In changeset 7dfb4b970cbd22cef170b2f45a41f445406a2ce5:

score: Add per scheduler instance maximum priority The priority values are only valid within a scheduler instance. Thus, the maximum priority value must be defined per scheduler instance. The first scheduler instance defines `PRIORITY_MAXIMUM`. This implies that `RTEMS_MAXIMUM_PRIORITY` and `POSIX_SCHEDULER_MAXIMUM_PRIORITY` are only valid for threads of the first scheduler instance. Further API/implementation changes are necessary to fix this. Update [#2556](#).

---

**Author:** Trac Migrate 2016-05-20T14:13:35.000Z

---

Original author: sebastian.huber

In changeset 8a040fe4eeb9f7ba5c9f95f8abd45b9b6d5f7c4b:

score: Use `_RBTree_Insert_inline()` Use `_RBTree_Insert_inline()` for priority thread queues. Update [#2556](#).

---

**Author:** Trac Migrate 2016-06-22T12:47:47.000Z

---

Original author: sebastian.huber

In changeset 77ff5599e0d8e6d91190a379be21a332f83252b0:

score: Introduce map priority scheduler operation Introduce map/unmap priority scheduler operations to map thread priority values from/to the user domain to/from the scheduler domain. Use the map priority operation to validate the thread priority. The EDF

schedulers use this new operation to distinguish between normal priorities and priorities obtain through a job release. Update [#2173](#). Update [#2556](#).

---

**Author:** Trac Migrate 2016-06-22T12:48:45.000Z

---

Original author: sebastian.huber

In changeset 9bfad8cd519f17cbb26a672868169fcd304d5bd5:

score: Add thread priority to scheduler nodes The thread priority is manifest in two independent areas. One area is the user visible thread priority along with a potential thread queue. The other is the scheduler. Currently, a thread priority update via `_Thread_Change_priority()` first updates the user visible thread priority and the thread queue, then the scheduler is notified if necessary. The priority is passed to the scheduler via a local variable. A generation counter ensures that the scheduler discards out-of-date priorities. This use of a local variable ties the update in these two areas close together. For later enhancements and the OMIP locking protocol implementation we need more flexibility. Add a thread priority information block to `Scheduler_Node` and synchronize priority value updates via a sequence lock on SMP configurations. Update [#2556](#).

---

**Author:** Trac Migrate 2016-07-27T08:56:15.000Z

---

Original author: sebastian.huber

In changeset f4d1f307926b6319e5d3b325dbe424901285dec1:

score: Split `_Thread_Change_priority()` Update [#2412](#). Update [#2556](#). Update [#2765](#).

---

**Author:** Trac Migrate 2016-07-27T08:56:26.000Z

---

Original author: sebastian.huber

In changeset ac8402ddd6e4a8eb6defb98220d39d4c20a6f025:

score: Simplify `_Thread_queue_Boost_priority()` Raise the priority under thread queue lock protection and omit the superfluous thread queue priority change, since the thread is extracted anyway. The unblock operation will pick up the new priority. Update [#2412](#). Update [#2556](#). Update [#2765](#).

---

**Author:** Trac Migrate 2016-07-27T08:56:36.000Z

---

Original author: sebastian.huber

In changeset 3a58dc863157bb21054a144c1a21b690544c0d23:

score: Priority inherit thread queue operations Move the priority change due to priority interitance to the thread queue enqueue operation to simplify the locking on SMP configurations. Update [#2412](#). Update [#2556](#). Update [#2765](#).

---

**Author:** Trac Migrate 2016-07-27T08:56:46.000Z

---

Original author: sebastian.huber

In changeset 1fcac5adc5ed38fb88ce4c6d24b2ca2e27e3cd10:

score: Turn thread lock into thread wait lock The `_Thread_Lock_acquire()` function had a potentially infinite run-time due to the lack of fairness at atomic operations level. Update [#2412](#). Update [#2556](#). Update [#2765](#).

---

**Author:** Trac Migrate 2016-07-27T08:56:57.000Z

---

Original author: sebastian.huber

In changeset d79df38c2bea50112214ade95776cb90d693e390:

score: Add deadlock detection The mutex objects use the owner field of the thread queues for the mutex owner. Use this and add a deadlock detection to `_Thread_queue_Enqueue_critical()` for thread queues with an owner. Update [#2412](#). Update [#2556](#). Close [#2765](#).

---

**Author:** Trac Migrate 2016-08-03T11:58:00.000Z

---

Original author: sebastian.huber

In changeset ff2e6c647d166fa54769f3c300855ef7f8020668:

score: Fix and simplify thread wait locks There was a subtle race condition in `_Thread_queue_Do_extract_locked()`. It must first update the thread wait flags and then restore the default thread wait state. In the previous implementation this could lead under rare timing conditions to an ineffective `_Thread_Wait_tranquilize()` resulting to a corrupt system state. Update [#2556](#).

---

**Author:** Trac Migrate 2016-08-04T06:29:02.000Z

---

Original author: sebastian.huber

In changeset 1c1e31f788b85bf3bcadea675110eec35a612eb4:

score: Optimize `_Thread_queue_Path_release()` Update [#2556](#).

---

**Author:** Trac Migrate 2016-09-08T07:57:08.000Z

---

Original author: sebastian.huber

In changeset e27421f38661ea18b2a663776ad524afadeba607:

score: Move scheduler node to own header file This makes it possible to add scheduler nodes to structures defined in <rtems/score/thread.h>. Update [#2556](#).

---

**Author:** Trac Migrate 2016-09-08T07:57:18.000Z

---

Original author: sebastian.huber

In changeset 15b5678dcd72a11909a54b63ddc8e57869d63244:

score: Move thread wait node to scheduler node Update [#2556](#).

---

**Author:** Trac Migrate 2016-09-08T07:57:27.000Z

---

Original author: sebastian.huber

In changeset 52a661e8f8124b77b29a2ed44c7814fd0a7cf358:

score: Add scheduler node implementation header Update [#2556](#).

---

**Author:** Trac Migrate 2016-09-21T07:05:43.000Z

---

Original author: sebastian.huber

In changeset 300f6a481aaf9e6d29811faca71bf7104a01492c:

score: Rework thread priority management Add priority nodes which contribute to the overall thread priority. The actual priority of a thread is now an aggregation of priority nodes. The thread priority aggregation for the home scheduler instance of a thread consists of at least one priority node, which is normally the real priority of the thread. The locking protocols (e.g. priority ceiling and priority inheritance), rate-monotonic period objects and the POSIX sporadic server add, change and remove priority nodes. A thread changes its priority now immediately, e.g. priority changes are not deferred until the thread releases its last resource. Replace the `_Thread_Change_priority()` function with `* _Thread_Priority_perform_actions()`, `* _Thread_Priority_add()`, `* _Thread_Priority_remove()`, `* _Thread_Priority_change()`, and `* _Thread_Priority_update()`. Update [#2412](#). Update [#2556](#).

---

**Author:** Trac Migrate 2016-09-21T07:05:58.000Z

---

Original author: sebastian.huber

In changeset 5d6b21198140f406a71599a2d388b6ec47ee3337:

score: Add scheduler node table for each thread Update [#2556](#).

---

**Author:** Trac Migrate 2016-09-21T07:06:10.000Z

---

Original author: sebastian.huber

In changeset 266d3835d883f908c0e4cbf547359d683f72dcc4:

score: Manage scheduler nodes via thread queues Update [#2556](#).

---

**Author:** Trac Migrate 2016-09-21T07:06:34.000Z

---

Original author: sebastian.huber

In changeset 8123cae864579219e5003a67b451ca4cc07d998b:

rtems: Add rtems\_task\_get\_priority() Update [#2556](#). Update [#2784](#).

---

**Author:** Trac Migrate 2016-09-21T07:06:48.000Z

---

Original author: sebastian.huber

In changeset f6142c19f192e40ee1aa9ff67eb1c711343c157d:

score: Scheduler node awareness for thread queues Maintain the priority of a thread for each scheduler instance via the thread queue enqueue, extract, priority actions and surrender operations. This replaces the primitive priority boosting. Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:06:30.000Z

---

Original author: sebastian.huber

In changeset d097b54633fe98d4370154de5bdea44c32e81648:

score: Rename scheduler ask for help stuff Rename the scheduler ask for help stuff since this will be replaced step by step with a second generation of the scheduler helping protocol. Keep the old one for now in parallel to reduce the patch set sizes. Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:06:40.000Z

---

Original author: sebastian.huber

In changeset 501043a18bae037ca7195ce6989d3ffa8cc72660:

score: Pass scheduler node to update priority op This enables to call this scheduler operation for all scheduler nodes available to a thread. Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:06:50.000Z

---

Original author: sebastian.huber

In changeset 2df4abcee2fd762a9688bef13e152d5b81cc763e:

score: Pass scheduler node to yield operation Changed for consistency with other scheduler operations. Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:07:00.000Z

---

Original author: sebastian.huber

In changeset e382a1bfccdecf1dcf01c452ee0edb5afa0660b3:

score: Pass scheduler node to block operation Changed for consistency with other scheduler operations. Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:07:10.000Z

---

Original author: sebastian.huber

In changeset 72e0bdba4580072c33da09fcacbd3063dbc4f2c1:

score: Pass scheduler node to unblock operation Changed for consistency with other scheduler operations. Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:07:20.000Z

---

Original author: sebastian.huber

In changeset 3a724113f953490e05704582fb1effbf6c8e9601:

score: Simplify \_Scheduler\_SMP\_Node\_change\_state() Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:07:30.000Z

---

Original author: sebastian.huber

In changeset 1c9688a9a11c08eabd6443d8bb9ccd439dce82e5:

score: Add \_Scheduler\_Node\_get\_scheduler() Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:07:40.000Z

---

Original author: sebastian.huber

In changeset 36d7abad13474c6c7211dc07643287747d4594bb:

score: Add \_Thread\_Scheduler\_add\_wait\_node() Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:07:50.000Z

---

Original author: sebastian.huber

In changeset 70c22d939513dd05171d99cb053dc8f71135ee25:

score: Add \_Thread\_Scheduler\_remove\_wait\_node() Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:08:00.000Z

---

Original author: sebastian.huber

In changeset 07a32d193257f150e5237970a7fa864ab71817b3:

score: Add thread scheduler lock Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:08:10.000Z

---

Original author: sebastian.huber

In changeset a7a8ec03258a7e59a300919485cbbd5f37782416:

score: Protect thread scheduler state changes Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:08:20.000Z

---

Original author: sebastian.huber

In changeset edb020ca678c78e4a1a7ba4becbc46a2d6bf24c7:

score: Protect thread CPU by thread scheduler lock Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:08:30.000Z

---

Original author: sebastian.huber

In changeset ebdd2a343181ef5f3fc2f1330930b0ea5c0ed8a4:

score: Add scheduler node requests Add the ability to add/remove scheduler nodes to/from the set of scheduler nodes available to the schedulers for a particular thread. Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:08:39.000Z

---

Original author: sebastian.huber

In changeset 240347331d45b0d424077a8b74ee02efc651e003:

score: Add \_Thread\_Scheduler\_process\_requests() Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:08:50.000Z

---

Original author: sebastian.huber

In changeset 351c14dfd00e1bdaced2823242532cab4bccb58c:

score: Add new SMP scheduler helping protocol Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:08:59.000Z

---

Original author: sebastian.huber

In changeset 6a82f1ae8c1cd3d24b4ad6dc78431ffffb214151:

score: Yield support for new SMP helping protocol Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:09:09.000Z

---

Original author: sebastian.huber

In changeset 913864c0b85c9e94140515a44e79d13e999ff9a2:

score: Use scheduler instance specific locks Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:09:19.000Z

---

Original author: sebastian.huber

In changeset 3a2724805421098df505c0acea106fb294bc2f6a:

score: First part of new MrsP implementation Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:09:30.000Z

---

Original author: sebastian.huber

In changeset 73a193fdd672486f57ec6db5f9beb50e5264ffac:

score: Delete unused functions Delete \_Scheduler\_Thread\_change\_resource\_root() and \_Scheduler\_Thread\_change\_help\_state(). Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:09:40.000Z

---

Original author: sebastian.huber

In changeset 97f7dac6604b448f0c4ee10f02d192ea42bc6aaa:

score: Delete \_Scheduler\_Ask\_for\_help\_if\_necessary Delete Thread\_Control::Resource\_node. Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:10:09.000Z

---

Original author: sebastian.huber

In changeset 6771359fa1488598ccba3fd3c440b95f64965340:

score: Second part of new MrsP implementation Update [#2556](#).



---

**Author:** Trac Migrate 2016-11-02T09:10:19.000Z

---

Original author: sebastian.huber

In changeset 1cafc4664689040d67033d81c9d2e25929d44477:

score: Delete Resource Handler Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:10:29.000Z

---

Original author: sebastian.huber

In changeset b5f1b249028ea2be69a4ad06aa822c16cb4ac57e:

score: Delete Scheduler\_Node::accepts\_help Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:10:39.000Z

---

Original author: sebastian.huber

In changeset c0f1f52763b3a231a329da0162979207519a6db6:

score: Delete Thread\_Scheduler\_control::node Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:10:48.000Z

---

Original author: sebastian.huber

In changeset 7f7424329eafab755381bc638c2cdddc152a909b:

score: Delete Thread\_Scheduler\_control::own\_node Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:10:59.000Z

---

Original author: sebastian.huber

In changeset 2dd098a6359d9df132da09201ea0506c5389dc80:

score: Introduce Thread\_Scheduler\_control::home  
 Replace Thread\_Scheduler\_control::control and  
 Thread\_Scheduler\_control::own\_control with new  
 Thread\_Scheduler\_control::home. Update [#2556](#).

---

**Author:** Trac Migrate 2016-11-02T09:11:08.000Z

---

Original author: sebastian.huber

In changeset 63e2ca1b8b0a651a733d4ac3e0517397d0681214:

score: Simplify yield and unblock scheduler ops Update [#2556](#).

---

**Author:** Trac Migrate 2016-12-23T14:10:09.000Z

---

Original author: sebastian.huber

- **Priority** changed from ~"normal" to ~"high"

---

**Author:** Trac Migrate 2017-02-01T06:59:55.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*
- **Version** ~"4.12" deleted

[8add1793d25b2f76d564028f991cac31e0f871b4/rtems-docs]

---

**Author:** Trac Migrate 2017-02-03T09:58:05.000Z

---

Original author: sebastian.huber

In changeset ca1e546e7772838b20d0792155e2c71514d6b5d3:

score: Improve scheduler helping protocol Only register ask for help requests in the scheduler unblock and yield operations. The actual ask for help operation is carried out during `_Thread_Do_dispatch()` on a processor related to the thread. This yields a better separation of scheduler instances. A thread of one scheduler instance should not be forced to carry out too much work for threads on other scheduler instances. Update [#2556](#).

---

**Author:** Trac Migrate 2017-03-07T12:21:24.000Z

---

Original author: sebastian.huber

In `[changeset:"088acbb01fc5060f687e4776f8fc6862060d3aa8/rtems"088acbb0/rtems]`:

```

1 score: Fix scheduler yield in SMP configurations
2
3 Check that no ask help request is registered during unblock and yield
4 scheduler operations. There is no need to ask for help if a scheduled
5 thread yields, since this is already covered by the pre-emption
6 detection.
7
8 Update #2556.
```

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

|                             |                          |
|-----------------------------|--------------------------|
| <b>Author:</b> Trac Migrate | 2017-11-09T06:27:14.000Z |
|-----------------------------|--------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.859 2554 - New watchdog handler implementation

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2554                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-01-27T08:28:00.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::high, priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2554">https://gitlab.rtems.org/rtems/rtems/-/issues/2554</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

#### Background

The watchdog handler uses delta chains. The insert operation has a  $O(n)$  worst-case time complexity with  $n$  being the count of watchdogs in the delta chain. In each step of the insert operation, the SMP lock of the corresponding watchdog header is acquired and released. The profiling data obtain by test program `smptests/smpwakeafter01` showed that the current implementation leads to unacceptable latencies, thus it should be replaced by something else.

The use cases for the watchdog handler fall roughly into two categories. \* Timeouts - used to detect if some operations needs more time than expected. Since the unexpected happens hopefully rarely, timeout timers are usually removed before they expire. The critical operations are insert and removal. They are important for the performance of a network stack. \* Timers - used to carry out some work in the future. They usually expire and need a high resolution. An example user is a time driven scheduler, e.g. rate-monotonic or EDF.

One approach is to use a red-black tree with the expiration time as the key. This leads to  $O(\log(n))$  worst-case insert and removal operations. For each operation it is sufficient to acquire and release the lock only once. The drawback is that a 64-bit integer type must be used for the intervals to avoid a potential overflow of the key values. With a system tick interval of 1ns the system could run more than 500 years before an overflow happens. The EDF scheduler would also profit from a 64-bit interval representation, see [#2173](#).

An alternative is the use of a [timer wheel](#) based algorithm which is used in Linux and [FreeBSD](FreeBSD)(<http://web.mit.edu/afs.new/sipb/user/daveg/ATHENA/Info/>

[wucs-95-23.ps](#)) for example. A timer wheel based algorithm offers  $O(1)$  worst-case time complexity for insert and removal operations. The drawback is that the run-time of the watchdog tick procedure is somewhat unpredictable due to the use of a hash table or cascading.

Which approach should we choose? Since the watchdog serves the timeout and timer services in RTEMS we have to make some trade-offs. We recommend to use the red-black tree approach which offers a more predictable run-time behaviour and sacrifice the constant insert and removal operations offered by the timer wheel algorithms, see also <https://www.kernel.org/doc/ols/2006/ols2006v1-pages-333-346.pdf>. We can reuse the red-black tree support already used for the thread priority queues.

The new watchdog handler implementation is a prerequisite to eliminate the Giant lock in the Classic Timer manager.

## Implementation

Change the `_Watchdog_Ticks_since_boot` to a 64-bit integer type. Keep the `Watchdog_Interval` at 32-bit for backward compatibility. Replace the delta chains with a red-black tree. Use the ticks for timers with a relative expiration time. Use `struct timespec` or `struct bintime` for timers with an absolute expiration time. This has the benefit that we do not have to adjust the data structures in case the absolute time changes, e.g. due to NTP. It simplifies the POSIX timer services, since no conversion to ticks is necessary.

- [tmtimer01-T4240-f831eff7387d9a4ae8460d639da660d5ae2ce4fa.png](#)
- [tmtimer01-T4240-next.png](#)

**Author:** Trac Migrate 2016-01-27T09:39:52.000Z

Original author: sebastian.huber

Profiling data (reduced to show only relevant information) obtained on the 24-processor T4240 system using the `smpstests/smpwakeafter01` test.

```

1 <ProfilingReport name="SMPWAKEAFTER 1">
2 <PerCPUProfilingReport processorIndex="0">
3 <MaxThreadDispatchDisabledTime unit="ns">3128351</
  ↳MaxThreadDispatchDisabledTime>
4 <MeanThreadDispatchDisabledTime unit="ns">97821</
  ↳MeanThreadDispatchDisabledTime>
5 <TotalThreadDispatchDisabledTime unit="ns">1435132321</
  ↳TotalThreadDispatchDisabledTime>
6 <ThreadDispatchDisabledCount>14671</ThreadDispatchDisabledCount>
7 <MaxInterruptDelay unit="ns">0</MaxInterruptDelay>
8 <MaxInterruptTime unit="ns">21766</MaxInterruptTime>
9 <MeanInterruptTime unit="ns">10040</MeanInterruptTime>
10 <TotalInterruptTime unit="ns">124466623</TotalInterruptTime>
11 <InterruptCount>12396</InterruptCount>
12 </PerCPUProfilingReport>
13 <PerCPUProfilingReport processorIndex="1">
14 <MaxThreadDispatchDisabledTime unit="ns">1548547</
  ↳MaxThreadDispatchDisabledTime>

```

(continues on next page)

(continued from previous page)

```

15 <MeanThreadDispatchDisabledTime unit="ns">79339</
    ↳MeanThreadDispatchDisabledTime>
16 <TotalThreadDispatchDisabledTime unit="ns">1621381982</
    ↳TotalThreadDispatchDisabledTime>
17 <ThreadDispatchDisabledCount>20436</ThreadDispatchDisabledCount>
18 <MaxInterruptDelay unit="ns">0</MaxInterruptDelay>
19 <MaxInterruptTime unit="ns">37</MaxInterruptTime>
20 <MeanInterruptTime unit="ns">11</MeanInterruptTime>
21 <TotalInterruptTime unit="ns">32946</TotalInterruptTime>
22 <InterruptCount>2791</InterruptCount>
23 </PerCPUProfilingReport>
24 <SMPLockProfilingReport name="Watchdog">
25 <MaxAcquireTime unit="ns">14893</MaxAcquireTime>
26 <MaxSectionTime unit="ns">2978</MaxSectionTime>
27 <MeanAcquireTime unit="ns">32</MeanAcquireTime>
28 <MeanSectionTime unit="ns">55</MeanSectionTime>
29 <TotalAcquireTime unit="ns">1158320573</TotalAcquireTime>
30 <TotalSectionTime unit="ns">2009011082</TotalSectionTime>
31 <UsageCount>35986044</UsageCount>
32 <ContentionCount initialQueueLength="0">6874</ContentionCount>
33 <ContentionCount initialQueueLength="1">6187</ContentionCount>
34 <ContentionCount initialQueueLength="2">8266</ContentionCount>
35 <ContentionCount initialQueueLength="3">35964717</ContentionCount>
36 </SMPLockProfilingReport>
37 <SMPLockProfilingReport name="Giant">
38 <MaxAcquireTime unit="ns">1803</MaxAcquireTime>
39 <MaxSectionTime unit="ns">29041</MaxSectionTime>
40 <MeanAcquireTime unit="ns">105</MeanAcquireTime>
41 <MeanSectionTime unit="ns">5514</MeanSectionTime>
42 <TotalAcquireTime unit="ns">87844</TotalAcquireTime>
43 <TotalSectionTime unit="ns">4582492</TotalSectionTime>
44 <UsageCount>831</UsageCount>
45 <ContentionCount initialQueueLength="0">831</ContentionCount>
46 <ContentionCount initialQueueLength="1">0</ContentionCount>
47 <ContentionCount initialQueueLength="2">0</ContentionCount>
48 <ContentionCount initialQueueLength="3">0</ContentionCount>
49 </SMPLockProfilingReport>
50 </ProfilingReport>

```

The clock tick interval is 1ms (1000 ticks per second). We observe a maximum thread dispatch disabled time of 3.1ms on the first processor which serves the clock interrupt and 1.5ms on the other processors. There is no contention on the Giant lock. However, the watchdog lock is highly contended. The maximum acquire and section times are small compared to the maximum thread dispatch disabled time. The maximum interrupt time on the first processor is 0.012ms, so serving the clock interrupt is no a big deal This clearly indicates that the loop based updates of the delta chains are the main issue.

**Author:** Trac Migrate 2016-02-04T11:59:40.000Z

Original author: sebastian.huber

- **Status** changed from *new* to *accepted*

---

**Author:** Trac Migrate 2016-02-17T10:54:37.000Z

---

Original author: sebastian.huber

In changeset 10f28914f8bac5b8676ce1b9cc7efecb2b33bb3:

smp tests/smpwakeafter01: Add scheduler config Update [#2554](#).

---

**Author:** Joel Sherrill 2016-02-18T19:58:15.000Z

---

Original author: sebastian.huber

I am not opposed to the use of RB Trees or the use of 64 bit time for absolute/calendar time.

I would like to see us move away from ticks on the relative timer and move to something more like CLOCK\_MONOTONIC based on uptime.

I assume the new ticks key value will be the “watchdog ticks since boot” value to trigger the watchdogs on. I think this is really still OK based on the math but limits the durations one can delay and the granularity.

The extra granularity may allow us to move to a tickless or variable clock tick in the future. Although I am still concerned that reprogramming the timer on the fly is potentially more dangerous and error prone than a fixed tick.

---

**Author:** Trac Migrate 2016-03-02T08:01:39.000Z

---

Original author: sebastian.huber

In changeset f831eff7387d9a4ae8460d639da660d5ae2ce4fa:

tmtests/tmtimer01: New test Test run performed on T4240 running at 1667MHz in uni-processor configuration. Update [#2554](#).

---

**Author:** Trac Migrate 2016-03-02T08:02:23.000Z

---

Original author: sebastian.huber

- **Attachment** [tm timer01-T4240-f831eff7387d9a4ae8460d639da660d5ae2ce4fa.png](#) added

---

**Author:** Trac Migrate 2016-03-02T08:02:37.000Z

---

Original author: sebastian.huber

- **Attachment** [tm timer01-T4240-next.png](#) added

**Author:** Trac Migrate 2016-03-02T08:19:43.000Z

Original author: sebastian.huber

Test results (some data omitted the middle) for new test tmtimer01 executed on a T4240 running at 1667MHz in uni-processor configuration using [f831eff7387d9a4ae8460d639da660d5ae2ce4fa/rtems]:

```

1 <TMTimer01 timerCount="65504">
2 <Sample>
3 <ActiveTimers>0</ActiveTimers><First unit="ns">6397</First><Middle unit=
  ↳ "ns">3290</Middle><Last unit="ns">1527</Last>
4 </Sample>
5 <Sample>
6 <ActiveTimers>2</ActiveTimers><First unit="ns">1986</First><Middle unit=
  ↳ "ns">1550</Middle><Last unit="ns">1314</Last>
7 </Sample>
8 <Sample>
9 <ActiveTimers>4</ActiveTimers><First unit="ns">1551</First><Middle unit=
  ↳ "ns">2134</Middle><Last unit="ns">3072</Last>
10 </Sample>
11 <Sample>
12 <ActiveTimers>7</ActiveTimers><First unit="ns">2545</First><Middle unit=
  ↳ "ns">3511</Middle><Last unit="ns">3404</Last>
13 </Sample>
14 <Sample>
15 <ActiveTimers>10</ActiveTimers><First unit="ns">1595</First><Middle_
  ↳ unit="ns">2363</Middle><Last unit="ns">4287</Last>
16 </Sample>
17 <Sample>
18 <ActiveTimers>14</ActiveTimers><First unit="ns">1473</First><Middle_
  ↳ unit="ns">2740</Middle><Last unit="ns">6069</Last>
19 </Sample>
20 <Sample>
21 <ActiveTimers>55772</ActiveTimers><First unit="ns">1979</First><Middle_
  ↳ unit="ns">11815557</Middle><Last unit="ns">21907509</Last>
22 </Sample>
23 <Sample>
24 <ActiveTimers>65503</ActiveTimers><First unit="ns">2404</First><Middle_
  ↳ unit="ns">13694591</Middle><Last unit="ns">26215885</Last>
25 </Sample>
26 </TMTimer01>Last>

```

!`tmtimer01-T4240-f831eff7387d9a4ae8460d639da660d5ae2ce4fa.png,  
 center, 60% <[https://gitlab.rtems.org/-/project/uploads/migrated/  
 tmtimer01-T4240-f831eff7387d9a4ae8460d639da660d5ae2ce4fa.png](https://gitlab.rtems.org/-/project/uploads/migrated/tmtimer01-T4240-f831eff7387d9a4ae8460d639da660d5ae2ce4fa.png), center,  
 60%>`\_

**Author:** Trac Migrate 2016-03-02T08:22:54.000Z

Original author: sebastian.huber

Test results (some data omitted the middle) for new test tmtimer01 executed on a T4240 running at 1667MHz in uni-processor configuration using the new red-black tree based implementation:

```

1 <TMTimer01 timerCount="65504">
2 <Sample>
3 <ActiveTimers>0</ActiveTimers><First unit="ns">8812</First><Middle unit=
  ↳"ns">1412</Middle><Last unit="ns">917</Last>
4 </Sample>
5 <Sample>
6 <ActiveTimers>2</ActiveTimers><First unit="ns">1602</First><Middle unit=
  ↳"ns">1010</Middle><Last unit="ns">1367</Last>
7 </Sample>
8 <Sample>
9 <ActiveTimers>4</ActiveTimers><First unit="ns">1524</First><Middle unit=
  ↳"ns">1089</Middle><Last unit="ns">1086</Last>
10 </Sample>
11 <Sample>
12 <ActiveTimers>7</ActiveTimers><First unit="ns">1791</First><Middle unit=
  ↳"ns">1121</Middle><Last unit="ns">1838</Last>
13 </Sample>
14 <Sample>
15 <ActiveTimers>10</ActiveTimers><First unit="ns">1488</First><Middle_
  ↳unit="ns">1016</Middle><Last unit="ns">2134</Last>
16 </Sample>
17 <Sample>
18 <ActiveTimers>14</ActiveTimers><First unit="ns">1527</First><Middle_
  ↳unit="ns">1698</Middle><Last unit="ns">3186</Last>
19 </Sample>
20 <Sample>
21 <ActiveTimers>55772</ActiveTimers><First unit="ns">8949</First><Middle_
  ↳unit="ns">10031</Middle><Last unit="ns">16262</Last>
22 </Sample>
23 <Sample>
24 <ActiveTimers>65503</ActiveTimers><First unit="ns">9199</First><Middle_
  ↳unit="ns">10309</Middle><Last unit="ns">19090</Last>
25 </Sample>
26 </TMTimer01>

```

!`tmtimer01-T4240-next.png, center, 60% <<https://gitlab.rtems.org/-/project/uploads/migrated/tmtimer01-T4240-next.png>, center, 60%>`\_

**Author:** Trac Migrate 2016-03-02T09:26:19.000Z

Original author: sebastian.huber

Profiling data (reduced to show only relevant information) of smpwakeafter01 executed on a T4240 using 24 processors and the new red-black tree based implementation.



```

1 <ProfilingReport name="SMPWAKEAFTER 1">
2 <PerCPUProfilingReport processorIndex="0">
3 <MaxThreadDispatchDisabledTime unit="ns">85615</
  ↳MaxThreadDispatchDisabledTime>
4 <MeanThreadDispatchDisabledTime unit="ns">15508</
  ↳MeanThreadDispatchDisabledTime>
5 <TotalThreadDispatchDisabledTime unit="ns">563813241</
  ↳TotalThreadDispatchDisabledTime>
6 <ThreadDispatchDisabledCount>36355</ThreadDispatchDisabledCount>
7 <MaxInterruptDelay unit="ns">0</MaxInterruptDelay>
8 <MaxInterruptTime unit="ns">4771</MaxInterruptTime>
9 <MeanInterruptTime unit="ns">482</MeanInterruptTime>
10 <TotalInterruptTime unit="ns">11144389</TotalInterruptTime>
11 <InterruptCount>23082</InterruptCount>
12 </PerCPUProfilingReport>
13 <PerCPUProfilingReport processorIndex="1">
14 <MaxThreadDispatchDisabledTime unit="ns">53595</
  ↳MaxThreadDispatchDisabledTime>
15 <MeanThreadDispatchDisabledTime unit="ns">14437</
  ↳MeanThreadDispatchDisabledTime>
16 <TotalThreadDispatchDisabledTime unit="ns">493386525</
  ↳TotalThreadDispatchDisabledTime>
17 <ThreadDispatchDisabledCount>34175</ThreadDispatchDisabledCount>
18 <MaxInterruptDelay unit="ns">0</MaxInterruptDelay>
19 <MaxInterruptTime unit="ns">3094</MaxInterruptTime>
20 <MeanInterruptTime unit="ns">844</MeanInterruptTime>
21 <TotalInterruptTime unit="ns">8783271</TotalInterruptTime>
22 <InterruptCount>10398</InterruptCount>
23 </PerCPUProfilingReport>
24 <PerCPUProfilingReport processorIndex="2">
25 <MaxThreadDispatchDisabledTime unit="ns">87633</
  ↳MaxThreadDispatchDisabledTime>
26 <MeanThreadDispatchDisabledTime unit="ns">15055</
  ↳MeanThreadDispatchDisabledTime>
27 <TotalThreadDispatchDisabledTime unit="ns">561768649</
  ↳TotalThreadDispatchDisabledTime>
28 <ThreadDispatchDisabledCount>37314</ThreadDispatchDisabledCount>
29 <MaxInterruptDelay unit="ns">0</MaxInterruptDelay>
30 <MaxInterruptTime unit="ns">4884</MaxInterruptTime>
31 <MeanInterruptTime unit="ns">447</MeanInterruptTime>
32 <TotalInterruptTime unit="ns">10309678</TotalInterruptTime>
33 <InterruptCount>23056</InterruptCount>
34 </PerCPUProfilingReport>
35 <SMPLockProfilingReport name="Giant">
36 <MaxAcquireTime unit="ns">1924</MaxAcquireTime>
37 <MaxSectionTime unit="ns">89496</MaxSectionTime>
38 <MeanAcquireTime unit="ns">116</MeanAcquireTime>
39 <MeanSectionTime unit="ns">4644</MeanSectionTime>
40 <TotalAcquireTime unit="ns">119374</TotalAcquireTime>
41 <TotalSectionTime unit="ns">4751695</TotalSectionTime>

```

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```

42 <UsageCount>1023</UsageCount>
43 <ContentionCount initialQueueLength="0">1023</ContentionCount>
44 <ContentionCount initialQueueLength="1">0</ContentionCount>
45 <ContentionCount initialQueueLength="2">0</ContentionCount>
46 <ContentionCount initialQueueLength="3">0</ContentionCount>
47 </SMPLockProfilingReport>
48 <SMPLockProfilingReport name="Scheduler">
49 <MaxAcquireTime unit="ns">54115</MaxAcquireTime>
50 <MaxSectionTime unit="ns">9609</MaxSectionTime>
51 <MeanAcquireTime unit="ns">1154</MeanAcquireTime>
52 <MeanSectionTime unit="ns">881</MeanSectionTime>
53 <TotalAcquireTime unit="ns">1357899955</TotalAcquireTime>
54 <TotalSectionTime unit="ns">1035917001</TotalSectionTime>
55 <UsageCount>1175742</UsageCount>
56 <ContentionCount initialQueueLength="0">16188</ContentionCount>
57 <ContentionCount initialQueueLength="1">14403</ContentionCount>
58 <ContentionCount initialQueueLength="2">14350</ContentionCount>
59 <ContentionCount initialQueueLength="3">1130801</ContentionCount>
60 </SMPLockProfilingReport>
61 <SMPLockProfilingReport name="Watchdog">
62 <MaxAcquireTime unit="ns">686</MaxAcquireTime>
63 <MaxSectionTime unit="ns">2220</MaxSectionTime>
64 <MeanAcquireTime unit="ns">61</MeanAcquireTime>
65 <MeanSectionTime unit="ns">78</MeanSectionTime>
66 <TotalAcquireTime unit="ns">4271819</TotalAcquireTime>
67 <TotalSectionTime unit="ns">5394270</TotalSectionTime>
68 <UsageCount>68964</UsageCount>
69 <ContentionCount initialQueueLength="0">68964</ContentionCount>
70 <ContentionCount initialQueueLength="1">0</ContentionCount>
71 <ContentionCount initialQueueLength="2">0</ContentionCount>
72 <ContentionCount initialQueueLength="3">0</ContentionCount>
73 </SMPLockProfilingReport>
74 </ProfilingReport>

```

The maximum thread dispatch disabled time drops from 3ms to about 100us. There is now one watchdog header per-CPU. Profiling data is only shown for one of the watchdog locks. No contention is visible here. The new bottle neck is the scheduler lock, but this is a different issue. In addition the interrupt count on scheduler A is about two times the clock tick interrupt count. This means that each clock tick service results in an inter-processor interrupt. This highlights one of the known problems of a global priority based scheduler: massive thread migrations.

**Author:** Trac Migrate 2016-03-04T13:59:46.000Z

Original author: sebastian.huber

[5b0d2c1965e1dab2915231866aaa5623ced66330/rtems]

[90d8567d34a6d80da04b1cb37b667a3173f584c4/rtems]

[03b900d3ed120ea919ea3eded7edbece3488cff3/rtems]

---

**Author:** Trac Migrate 2016-03-18T06:47:28.000Z

---

Original author: sebastian.huber

In changeset 90de3001089a8de300d9339b2d8d49a51ebd9674:

score: Destroy thread timer lock Update #2554.

---

**Author:** Trac Migrate 2016-05-12T11:35:43.000Z

---

Original author: sebastian.huber

In changeset 1379d840a483ccdce109fa8e45ef63d51a6e8e00:

smptests/smpcapture02: Adjust for clock changes Fix  
overall clock tick count. Change introduced by  
90d8567d34a6d80da04b1cb37b667a3173f584c4. Update #2554.

---

**Author:** Trac Migrate 2016-12-23T14:10:09.000Z

---

Original author: sebastian.huber

- **Priority** changed from ~"normal" to ~"high"

---

**Author:** Trac Migrate 2017-01-30T12:53:21.000Z

---

Original author: sebastian.huber

[a17535d222a1268542e97c7e6c1b2fdf045e46d8/rtems-docs]

---

**Author:** Trac Migrate 2017-01-30T13:22:58.000Z

---

Original author: sebastian.huber

[1161ed179c0be212b7909d6a761bfc31cacf4ca3/rtems-docs]

---

**Author:** Trac Migrate 2017-01-30T13:23:07.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.860 2553 - [mvme3100] boot\_card() broken by 37030e38

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2553                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-01-27T04:40:40.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:powerpc, bsp, priority::normal, resolution::fixed, tickettype::defect, version::5                                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2553">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2553</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: nick.withers

Backtrace with `37030e38 <<https://git.rtems.org/rtems/commit/?id=37030e38>>` \_\_\*\_ (with a fatal exception handler installed):

```

1 #0 fatal_extension (the_source=INTERNAL_ERROR_CORE, is_internal=true, the_
   ↪error=23) at init.c:425
2 #1 0x000a6d18 in _User_extensions_Iterate (arg=arg@entry=0x1ab6348,
   ↪visitor=0xa6c70 <_User_extensions_Fatal_visitor>) at ../../../../../../rtems/
   ↪c/src/../../../../cpukit/score/src/userextiterate.c:155
3 #2 0x000a1c90 in _User_extensions_Fatal (error=23, is_internal=true,
   ↪source=INTERNAL_ERROR_CORE) at ../../cpukit/../../../../mvme3100/lib/include/rtems/
   ↪score/userextimpl.h:254
4 #3 _Terminate (the_source=the_source@entry=INTERNAL_ERROR_CORE, is_internal=is_
   ↪internal@entry=true, the_error=the_error@entry=23) at ../../../../../../
   ↪rtems/c/src/../../../../cpukit/score/src/interr.c:44
5 #4 0x0007ad40 in RTEMS_Malloc_Initialize (areas=areas@entry=0x1ab6398, area_
   ↪count=area_count@entry=1, extend=extend@entry=0x0 <preload>)
6 at ../../../../../../rtems/c/src/../../../../cpukit/libcsupport/src/malloc_
   ↪initialize.c:53
7 #5 0x0005cf84 in bsp_work_area_initialize_default (area_size=<optimized out>,
   ↪area_begin=<optimized out>) at ../../../../../../mvme3100/lib/include/bsp/
   ↪bootcard.h:183
8 #6 bsp_work_area_initialize () at ../../../../../../rtems/c/src/lib/
   ↪libbsp/powerpc/mvme3100/../../../../powerpc/shared/startup/bspgetworkarea.c:23
9 #7 0x0005cec4 in boot_card (cmdline=<optimized out>) at ../../../../../../
   ↪./rtems/c/src/lib/libbsp/powerpc/mvme3100/../../../../shared/bootcard.c:80

```

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```
10 #8 0x00003294 in __rtems_entry_point () at ../../../../../../../../../../rtems/c/
    ↪src/lib/libbsp/powerpc/mvme3100/start/start.S:89
```

If I reverse the changes to `c/src/lib/libbsp/shared/bootcard.c` it works again.

\_\*\_ With RSB e3b9fb68 and the following RTEMS patches: \* <https://git.rtems.org/rtems/patch/?id=af418e8f6b76a14a1d543d79fc79aa469f06b47d> \* <https://git.rtems.org/rtems/patch/?id=7a0c4854c6abe8665b7e50a3bafebce84e7872a4> \* <https://git.rtems.org/rtems/patch/?id=4202a31f91ca3d19ca18f08730a4be52fb71cc04>

- **0001-bsps-powerpc-Fix-startup.patch**

**Author:** Trac Migrate 2016-01-27T06:36:27.000Z

Original author: nick.withers

- **Attachment** **0001-bsps-powerpc-Fix-startup.patch** added

**Author:** Trac Migrate 2016-01-27T06:36:44.000Z

Original author: nick.withers

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2016-01-27T10:23:29.000Z

Original author: nick.withers

Thank you again Sebastian, that's worked a treat!

**Author:** Trac Migrate 2016-01-27T10:32:49.000Z

Original author: nick.withers

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

In changeset ab8e821c9ee36dc5c3b429c2ca28e90b2c30432f:

bsps/powerpc: Fix startup Do work area initialization after bsp\_start() for BSPs using the shared PowerPC work area initialization. Close [#2553](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: nick.withers

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: nick.withers

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.861 2546 - Obsolete idp BSP

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2546                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                                 |
| <b>Created</b>     | 2016-01-23T23:52:33.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:m68k, bsp, priority::normal, resolution::fixed, ticket-type::enhancement, version::5                                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2546">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2546</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Obsolete and remove the m68k/idp BSP before the 4.12 release.

---

**Author:** Trac Migrate 2016-01-23T23:57:02.000Z

---

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In changeset f2ab5bc5943e1817540804117c4626151759681c:

Remove m68k/idp BSP closes [#2546](#).

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %”4.12” to %”4.12.0”

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

## 4.2.1.862 2545 - Obsolete mbx8xx BSP

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2545                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                       |
| <b>Created</b>     | 2016-01-23T22:48:39.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2545">https://gitlab.rtems.org/rtems/rtems/-/issues/2545</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Obsolete and remove.

**Author:** Trac Migrate 2017-02-15T13:49:47.000Z

- **Status** changed from *new* to *assigned*

**Author:** Joel Sherrill 2017-04-03T23:18:15.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

This is done.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.863 2544 - Osolete m68k/ods68302

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2544                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                                 |
| <b>Created</b>     | 2016-01-23T22:46:09.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::duplicate, tickettype::defect, version::5                                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2544">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2544</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Obsolete and remove the ods68302 BSP before 4.12.

**Author:** Joel Sherrill 2016-01-23T22:47:08.000Z

- **Description** changed

```

1 - Obsolete and remove the ods302 BSP before 4.12.
2 + Obsolete and remove the ods68302 BSP before 4.12.
3 ?                                     ++

```

- **Summary** changed from *Osolete m68k/ods302* to *Osolete m68k/ods68302*

**Author:** Trac Migrate 2016-10-03T00:48:55.000Z

Duplicate of [#2543](#).

**Author:** Trac Migrate 2016-10-03T00:49:13.000Z

- **Resolution** set to ~"duplicate"
- **Status** changed from *new* to *closed*

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed



## 4.2.1.864 2543 - Obsolete gen68302 BSP

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2543                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                                 |
| <b>Created</b>     | 2016-01-23T22:41:25.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2543">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2543</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Delete the gen68302 BSP after 4.11 and before 4.12.

- [0001-cpukit-m68k-Remove-leftover-bits-of-gen68302-BSP.patch](#)

**Author:** Trac Migrate 2016-10-03T00:23:25.000Z

- **Attachment** [0001-cpukit-m68k-Remove-leftover-bits-of-gen68302-BSP.patch](#) added

**Author:** Trac Migrate 2016-10-03T00:43:25.000Z

- **Cc** added @admin@kodeit.net

**Author:** Trac Migrate 2016-10-03T00:43:27.000Z

- **Cc** added @admin@kodeit.net

**Author:** Trac Migrate 2017-02-15T13:49:47.000Z

- **Status** changed from *new* to *assigned*

**Author:** Joel Sherrill 2017-04-03T23:17:45.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

This was removed.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.865 2542 - Review cxx\_iostream size change per function-section changes

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2542                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2016-01-23T22:22:10.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | bsp, priority::normal, resolution::fixed, tickettype::defect, version::4.10, version::4.12, version::5                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2542">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2542</a> |
| <b>Merges</b>      | 0                                                                                                                             |

It looks like some BSPs with their own linkcmds may have shrunk too much. Norm appears to be 50% while some went to 75-80%. A second look after catching the pattern indicates that the KEEP() section requirements in the linker scripts were not correct and it was missed.

Rather than reverting a bunch of patches, this ticket is to review all function-section patches from this one back in time for cxx\_iostream shrinking too much.

commit 6d21c13e5094d490280a941cf0e8333f91f85715 Author: Ralph Holmes  
<[ralph@ybden.com](mailto:ralph@ybden.com)> Date: Sat Jan 23 21:15:40 2016 +0000

powerpc/gen5200: Add per-section compilation and linking support.

For the brs5l BSP variant:

**Author:** Joel Sherrill 2016-01-23T22:25:02.000Z

The following commits were made before this was noticed. Only those with a large cxx\_iostream shrinkage or no cxx\_iostream size need review.

arm/beagle: Add per-section compilation and linking support  
arm/csb336: Add per-section compilation and linking support  
arm/csb337: Add per-section compilation and linking support  
arm/edb7312: Add per-section compilation and linking support  
arm/gdbarmsim: Add per-section compilation and linking support  
arm/gumstix: Add per-section compilation and linking support  
arm/lm3s69xx: Add per-section compilation and linking support  
arm/lpc176x: Add per-section compilation and linking support  
m68k/av5282: Add per-section compilation and linking support.  
m68k/csb360: Add per-section compilation and linking support.  
m68k/gen68302: Add per-section compilation and linking support.  
m68k/gen68340: Add per-section compilation and linking support.  
m68k/gen68360: Add per-section compilation and linking support.  
m68k/genmcf548x: Add per-section compilation and linking support.  
m68k/mcf5206elite: Add per-section compilation and linking support.  
m68k/mcf52235: Add per-section compilation and linking support.  
m68k/mcf5225x: Add per-section compilation and linking support.

m68k/mcf5235: Add per-section compilation and linking support. m68k/mcf5329: Add per-section compilation and linking support. m68k/mrm332: Add per-section compilation and linking support. m68k/mvme147: Add per-section compilation and linking support. m68k/mvme147s: Add per-section compilation and linking support. m68k/mvme162: Add per-section compilation and linking support. m68k/mvme167: Add per-section compilation and linking support. m68k/ods68302: Add per-section compilation and linking support. m68k/uC5282: Add per-section compilation and linking support. mips/csb350: Add per-section compilation and linking support. mips/hurricane: Add per-section compilation and linking support. mips/malta: Add per-section compilation and linking support. mips/rbtx4925: Add per-section compilation and linking support. mips/rbtx4938: Add per-section compilation and linking support. powerpc/beatnik: Add per-section compilation and linking support. powerpc/gen5200: Add per-section compilation and linking support. powerpc/haleakala: Add per-section compilation and linking support. powerpc/mbx8xx: Add per-section compilation and linking support. powerpc/mpc8260ads: Add per-section compilation and linking support. powerpc/mvme3100: Add per-section compilation and linking support. powerpc/mvme5500: Add per-section compilation and linking support. powerpc/qemuppc: Add per-section compilation and linking support. powerpc/ss555: Add per-section compilation and linking support. powerpc/t32mppc: Add per-section compilation and linking support. powerpc/tqm8xx: Add per-section compilation and linking support. powerpc/virtex4: Add per-section compilation and linking support. powerpc/virtex5: Add per-section compilation and linking support. powerpc/virtex: Add per-section compilation and linking support.

**Author:** Joel Sherrill 2016-01-23T22:27:17.000Z

- **Milestone** changed from %"4.11.1" to %"4.12"
- **Owner** set to [joel.sherrill@oarcorp.com](mailto:joel.sherrill@oarcorp.com)
- **Version** changed from ~"4.10" to ~"4.12"

**Author:** Joel Sherrill 2016-01-23T22:36:47.000Z

After a review of all potential BSPs, I have determined that these are the ones which are almost certainly missing KEEP() sections. This drops the set considerably.

As a practical matter, the BSPs will be converted to use a shared linkcmds.base or have the use of function-sections disabled by commenting out the added lines. We need to work out the details but the same comment should be added above those lines like this (review and approve):

powerpc/mbx8xx: Add per-section compilation and linking support. - removed per [#2545](#). powerpc/haleakala: Add per-section compilation and linking support. - [#2561](#). powerpc/ss555: Add per-section compilation and linking support. - [#2563](#). powerpc/qemuppc: Add per-section compilation and linking support. - [#2564](#). powerpc/mpc8260ads: Add per-section compilation and linking support. [#2565](#). m68k/mvme162: Add per-section compilation and linking support. - now uses shared m68k/gen68360: Add per-section compilation and linking support. - [#2566](#). m68k/mvme147s: Add per-section compilation and linking support. -

now uses shared m68k/mvme147: Add per-section compilation and linking support. - now uses shared m68k/mrm332: Add per-section compilation and linking support. - [#2657](#). m68k/mcf5225x: Add per-section compilation and linking support. - [#2568](#). m68k/mcf5329: Add per-section compilation and linking support. - [#2569](#). m68k/mcf52235: Add per-section compilation and linking support. - [#2570](#). m68k/mcf5235: Add per-section compilation and linking support. - [#2571](#). m68k/mcf5206elite: Add per-section compilation and linking support. - [#2572](#). m68k/gen68340: Add per-section compilation and linking support. - [#2573](#). m68k/av5282: Add per-section compilation and linking support. - [#2574](#). m68k/mvme167: Add per-section compilation and linking support. - now uses shared m68k/gen68302: Add per-section compilation and linking support. - removed per [#2543](#). m68k/uC5282: Add per-section compilation and linking support. - [#2575](#). m68k/ods68302: Add per-section compilation and linking support. - removed per [#2544](#). arm/lpc176x: Add per-section compilation and linking support. - [#2576](#).

---

**Author:** Trac Migrate 2016-01-25T20:14:25.000Z

---

In changeset 449905a8acaa5eac214c51ef2547b0321e86d6b2:

m68k/mvme\*: switch to shared linkcmds.base updates [#2542](#).

---

**Author:** Joel Sherrill 2016-02-06T16:26:17.000Z

---

All BSPs which had function sections enabled and clearly broke `cxx_iostream` should now have per function section linking disabled and a separate ticket filed.

---

**Author:** Joel Sherrill 2016-02-06T16:26:33.000Z

---

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.866 2537 - Use Newlib exec\*() variants and remove RTEMS versions

|                    |                                                                                                                                 |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2537                                                                                                                            |
| <b>State</b>       | closed                                                                                                                          |
| <b>Type</b>        | ISSUE                                                                                                                           |
| <b>Author</b>      | Joel Sherrill                                                                                                                   |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                                   |
| <b>Created</b>     | 2016-01-19T18:32:05.000Z                                                                                                        |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                        |
| <b>Milestone</b>   | 5.1                                                                                                                             |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::4.11                                                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/2537">https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/2537</a> |
| <b>Merges</b>      | 0                                                                                                                               |

In reviewing RTEMS+newlib POSIX conformance, I noticed that our newlib configuration does include the exec\*() variants. All of these call `_execve()` which we already provided.

This ticket is just to explain the removal of the RTEMS copies. The functional behavior to the user is still to return ENOSYS.

**Author:** Trac Migrate 2016-01-19T18:33:27.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 22bb1b61cb4efe0c0dbe41057aac83bb5cffb5d3:

posix/src/exec\*: Remove all variants already in Newlib The RTEMS build of Newlib includes implementations of all exec\*() variants. They rely on the `_execve()` support method. RTEMS already had this and it returned ENOSYS. There is no functional change. closes [#2537](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.867 2536 - RSB allows use of insecure hash algorithms like MD5 and SHA1

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2536                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-01-19T07:01:10.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::rtems-source-builder, version::5                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2536">https://gitlab.rtems.org/rtems/rtems/-/issues/2536</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

Support for these hashes should be removed. Hashes should be mandatory.

**Author:** Chris Johns 2016-01-19T23:04:04.000Z

Original author: sebastian.huber

Replying to [sebastian.huber](#):

Support for these hashes should be removed.

Ok.

Hashes should be mandatory.

I had left it optional as we move to adding them. They can be mandatory now.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-10-12T02:52:09.000Z

Original author: sebastian.huber

- **Owner** set to Chris Johns <[chrisj@rtems.org](mailto:chrisj@rtems.org)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"d94bd014a89b40d126b1d27c417b8025a4a9f5f5/rtems-source-builder" d94bd01/rtems-source-builder]:

```

1 4.12: Update all MD5 hashes to SHA256.
2
3 Closes #2536.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.868 2529 - BSP for the Atmel SAM V71/V70/E70/S70 chip platform

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2529                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2016-01-15T14:17:22.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:arm, bsp, priority::normal, resolution::fixed, ticket-type::enhancement, version::5                            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2529">https://gitlab.rtems.org/rtems/rtems/-/issues/2529</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

<http://www.atmel.com/products/microcontrollers/arm/sam-v-mcus.aspx>

**Author:** Trac Migrate 2016-01-19T07:38:47.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset f2e0f8e1a769231257f38a6bb6ab9ea9bbad452f:

bsp/atsam: New Close [#2529](#).

**Author:** Trac Migrate 2016-01-19T07:48:01.000Z

Original author: sebastian.huber

All tests except sp71 passed at version [f2e0f8e1a769231257f38a6bb6ab9ea9bbad452f/rtems] on a Atmel SAM V71 Xplained Ultra evaluation board running form 2MiB external SDRAM. sp71 uses more than 2MiB of memory. paranoia reported several flaws

and errors which is expected due to the lacking support for subnormal numbers in the FPU.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.869 2527 - Move pc386/tools/bin2boot to rtems-tools

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2527                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2016-01-15T00:36:55.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::wontfix, tickettype::enhancement, tool, version::5                                              |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2527">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2527</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Per discussion with Chris. Begin to eliminate BSP specific tools.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Joel Sherrill 2017-10-12T00:02:55.000Z

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

This appears to be an obsolete boot format. This utility isn't causing issues in its current location. Unless someone complains, it should remain here and be removed as part of moving to the new build system.

**Author:** Trac Migrate 2017-10-12T05:31:00.000Z



This is one item that forces you to install a native compiler to build RTEMS.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.870 2509 - Should "https://devel.rtems.org/wiki/TBR/Delete/BSP\_Template" be replaced?

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2509                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                                 |
| <b>Created</b>     | 2016-01-04T20:49:39.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2509">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2509</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: vattam.santosh

As part of the GCI Task <https://codein.withgoogle.com/dashboard/task-instances/5106463810781184/?sp-page=1>, the student has created a new page with a corrected template and placed it under "UserManual" at: [https://devel.rtems.org/wiki/TBR/UserManual/Submitting\\_a\\_BSP/BSP\\_Template](https://devel.rtems.org/wiki/TBR/UserManual/Submitting_a_BSP/BSP_Template) Is it a good idea to replace the older page with the newly created page?

**Author:** Gedare Bloom 2016-01-05T17:33:46.000Z

Original author: vattam.santosh

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Yeah this is an improvement even if we ultimately change how BSPs are documented. Deleting the old one and closing this ticket.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: vattam.santosh

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: vattam.santosh

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.871 2503 - mvme5500 BSP: Exception Handler uses deprecated Notepads.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2503                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-12-23T19:20:15.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:powerpc, bsp, priority::normal, resolution::fixed, tickettype::defect, version::5                                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2503">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2503</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: aunali1

The MVME5500 BSP uses Notepads in its exception handler and [#2493](#) removes them. This is obviously not portable and requires a rewrite.

**Author:** Trac Migrate 2015-12-23T19:22:59.000Z

Original author: aunali1

- **Owner** set to [joel.sherrill@oarcorp.com](mailto:joel.sherrill@oarcorp.com)

**Author:** Trac Migrate 2015-12-23T19:23:35.000Z

Original author: aunali1

- **Cc** added [@admin@kodeit.net](mailto:@admin@kodeit.net)

**Author:** Trac Migrate 2015-12-29T00:17:47.000Z

Original author: aunali1

This is related to [#2306](#).

**Author:** Joel Sherrill 2015-12-29T17:28:56.000Z

Original author: aunali1

**Author:** Joel Sherrill 2015-12-29T17:29:13.000Z

Original author: aunali1

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: aunali1

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: aunali1

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.872 2494 - Remove task variables

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2494                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-12-14T12:45:02.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2494">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2494</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Notepads were marked as obsolete in 4.11. Next step is to remove them. Documentation should mention that notepads are removed and list the alternatives, e.g. POSIX keys or thread local storage.

- [0001-api-Remove-deprecated-task-variables.patch](#)

---

**Author:** Trac Migrate 2015-12-15T10:50:17.000Z

---

Original author: sebastian.huber

This ticket depends on [#2306](#).

---

**Author:** Trac Migrate 2015-12-15T10:56:21.000Z

---

Original author: sebastian.huber

- Remove `_Thread_Control::task_variables`.
- Remove all `rtems_task_*variable*()` functions and now unused dependencies.
- Build with all tests enabled and fix all compile and link time errors.
- Run tests without regressions.
- Update documentation, to be defined.

---

**Author:** Trac Migrate 2016-03-01T03:38:09.000Z

---

Original author: sebastian.huber

- **Attachment** [0001-api-Remove-deprecated-task-variables.patch](#) added

---

**Author:** Trac Migrate 2016-03-01T03:38:31.000Z

---

Original author: sebastian.huber

- **Cc** added `@admin@kodeit.net`

---

**Author:** Trac Migrate 2016-05-04T05:28:19.000Z

---

Original author: sebastian.huber

[1d40d81b4b8dd50e4162b0b79b60d3312d2744e5/rtems]

Documentation update is missing.

---

**Author:** Trac Migrate 2017-02-15T13:21:27.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.873 2488 - Vagrant Scripts

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2488                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-12-10T18:58:54.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2488">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2488</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Ben.. someone posted on IRC that they used your scripts but the clones point to your personal repos which are out of date I am guessing.

Also is this discussed anywhere on the RTEMS wiki?

**Author:** Trac Migrate 2015-12-11T11:43:05.000Z

Drat. OK I am going to look into this.

**Author:** Trac Migrate 2015-12-12T20:47:43.000Z

I have . reproduced the problem

To fix some encountered problems, I . rebased my RSB repo . changed to the 4.12 ARM bset . updated the qemu linaro commit id to accept newly passed configure options . rebased my rtems-tools repo . hard-coded an RTEMS module location in rtems-test so it could find rtemstoolkit - not sure what a clean fix is there

As a result, tests are passing using the bbxm linaro qemu, making it Very Likely that everything is fixed.

I have to go now but as far as I'm concerned this ticket can be closed once I (or anyone) verified with their own eyes that this newly built BSP boots on real hardware. All changes are pushed so anyone can try.

**Author:** Trac Migrate 2015-12-13T04:35:16.000Z

Replying to [chrisj](#):

. hard-coded an RTEMS module location in rtems-test so it could find rtemstoolkit - not sure what a clean fix is there

This has been fixed in a recent path in the rtems-tools. Can you please test it?

Got it. It seemed to me I had fully rebased but I will re-investigate when I have some more time.

---

**Author:** Chris Johns 2015-12-13T04:38:56.000Z

---

These are the patches on master and 4.11:

<https://git.rtems.org/rtems-tools/commit/?id=a6f5f188ce61d586136c643125dfb857da64169f>  
<https://git.rtems.org/rtems-tools/commit/?h=4.11&id=3b9bfa4dfe6fe10fbaf1ebbf1ddca660c2f33167>

---

**Author:** Trac Migrate 2015-12-13T04:53:13.000Z

---

Acknowledged. I have to get to bed, please let me update later..

---

**Author:** Trac Migrate 2015-12-27T02:33:17.000Z

---

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

All build problems are fixed in my RSB repo. I have verified it works from scratch on real hw. I had to fix an additional build problem in uboot now that gcc has major version 6.

I am going to resolve this ticket and retry the tools test.

---

**Author:** Trac Migrate 2015-12-27T03:18:58.000Z

---

@chris, it seems your later commit of running the tester from a git clone did the trick - i rebased and the tester works now too.

Unfortunately there is now yet another problem with a new uboot for the bbxm so the actual tests have started failing :(.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.874 2487 - Should <https://devel.rtems.org/wiki/TBR/Delete/SpecBuilder> be Deleted?

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2487                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2015-12-08T17:20:39.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2487">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2487</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Chris.. you are the only one who knows if this tool is obsolete or not. Please do what you think is right with this page.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Chris Johns 2017-10-11T23:19:36.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

I cannot find the page in the wiki.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.875 2477 - Remove &lt;rtems/debug.h&gt;

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2477                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-11-25T08:30:22.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, version::5                                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2477">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2477</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

RTEMS has an API for dynamic debug support in <rtems/debug.h>. This feature is sparsely used:

```

1 cpukit/sapi/src/debug.c: rtems_debug_disable( RTEMS_DEBUG_ALL_MASK );
2 cpukit/sapi/src/debug.c: void rtems_debug_enable (
3 cpukit/sapi/src/debug.c: rtems_debug_control to_be_enabled
4 cpukit/sapi/src/debug.c: void rtems_debug_disable (
5 cpukit/sapi/src/debug.c: rtems_debug_control to_be_disabled
6 cpukit/sapi/src/debug.c: bool rtems_debug_is_enabled(
7 cpukit/sapi/src/debug.c: rtems_debug_control level
8 cpukit/rtems/include/rtems/rtems/regionimpl.h: if ( rtems_debug_is_enabled(_
  ↳ RTEMS_DEBUG_REGION ) ) \
9 cpukit/score/include/rtems/debug.h: typedef uint32_t rtems_debug_control;
10 cpukit/score/include/rtems/debug.h: SCORE_EXTERN rtems_debug_control _Debug_Level;
11 cpukit/score/include/rtems/debug.h: void rtems_debug_enable(
12 cpukit/score/include/rtems/debug.h: rtems_debug_control to_be_enabled
13 cpukit/score/include/rtems/debug.h: void rtems_debug_disable(
14 cpukit/score/include/rtems/debug.h: rtems_debug_control to_be_disabled
15 cpukit/score/include/rtems/debug.h: bool rtems_debug_is_enabled(
16 cpukit/score/include/rtems/debug.h: rtems_debug_control level
17 c/src/lib/libbsp/shared/bootcard.c: * - rtems_debug_enable( RTEMS_DEBUG_
  ↳ ALL_MASK );
18 c/src/lib/libbsp/shared/bootcard.c: rtems_debug_enable( RTEMS_DEBUG_ALL_MASK );
19 c/src/lib/libbsp/shared/include/bootcard.h: * - rtems_debug_enable( RTEMS_DEBUG_
  ↳ ALL_MASK )
20 testsuites/sptests/spregion_err01/init.c: puts( "TA1 - rtems_debug_disable - _
  ↳ RTEMS_DEBUG_REGION" );
21 testsuites/sptests/spregion_err01/init.c: rtems_debug_disable( RTEMS_DEBUG_
  ↳ REGION );
22 testsuites/sptests/spregion_err01/init.c: puts( "TA1 - rtems_debug_enable - _
  ↳ RTEMS_DEBUG_REGION" );
23 testsuites/sptests/spregion_err01/init.c: rtems_debug_enable( RTEMS_DEBUG_REGION_
  ↳ );
24 testsuites/sptests/sp10/init.c: puts( "Init - rtems_debug_is_enabled - is 0x1_
  ↳ set? No" );
25 testsuites/sptests/sp10/init.c: is_set = rtems_debug_is_enabled( 0x1 );
26 testsuites/sptests/sp10/init.c: puts( "Init - rtems_debug_enable - set 0x1" );
27 testsuites/sptests/sp10/init.c: rtems_debug_enable(0x1);
28 testsuites/sptests/sp10/init.c: puts( "Init - rtems_debug_is_enabled - is 0x1_
  ↳ set? Yes" );
29 testsuites/sptests/sp10/init.c: is_set = rtems_debug_is_enabled( 0x1 );
30 testsuites/sptests/sp10/init.c: puts( "Init - rtems_debug_disable - clear 0x1" );
31 testsuites/sptests/sp10/init.c: rtems_debug_disable(0x1);
32 testsuites/sptests/sp10/init.c: puts( "Init - rtems_debug_is_enabled - is 0x1_
  ↳ set? No" );
33 testsuites/sptests/sp10/init.c: is_set = rtems_debug_is_enabled( 0x1 );

```

The only user is the Classic Region and it is only active in case RTEMS\_DEBUG is defined. Due to the heap protection support which is also available in case RTEMS\_DEBUG is defined, the expensive heap walks are superfluous.

We should remove this API entirely to simplify the code base.



---

**Author:** Trac Migrate 2015-12-07T12:13:47.000Z

---

Original author: sebastian.huber

- **Owner** set to Sebastian Huber <[sebastian.huber@embedded-brains.de](mailto:sebastian.huber@embedded-brains.de)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 8054b1c7181b7c36e413ce15b686f99d06f4a7d2:

Remove <rtems/debug.h> Close [#2477](#).

---

**Author:** Trac Migrate 2015-12-07T13:43:47.000Z

---

Original author: sebastian.huber

In changeset 452eec433b3aa2fba464cee54f7d3c92726e4e0e:

doc: Remove reference to debug mask Update [#2477](#).

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.876 2464 - RSB: Tool patches use the RTEMS version

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2464                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-11-10T14:16:03.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::wontfix, tickettype::defect, tool, version::5                                                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2464">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2464</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

In `rtems/conifg/rtems-urls.bset` the tool patches are set to an RTEMS version dependent directory. This makes re-use of the general purpose files quite difficult.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Chris Johns 2017-10-11T23:17:34.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

We should use patches from tickets rather than using the `rtems-tools.git` repo. This means this any changed in the RSB can be avoided.

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.877 2459 - Add `rtems_chain_get_first_unprotected()` to chain API

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2459                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-11-05T10:28:59.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, ticket-type::enhancement, version::5                                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2459">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2459</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

---

**Author:** Trac Migrate 2015-11-05T10:33:12.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"

- **Status** changed from *new* to *closed*

[aa473025f70d144ef9b50e833e7d9b91aad134f9/rtems]

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.878 2455 - Warning in spsimplsched02

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2455                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2015-11-03T15:53:29.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::4.11, version::4.12, version::5                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2455">https://gitlab.rtems.org/rtems/rtems/-/issues/2455</a> |
| <b>Merges</b>      | 0                                                                                                                   |

This may apply to the 4.11 branch as well. I am not sure.

../../../../../../../../rtems/c/src/../../../../testsuites/sptests/spsimplsched02/init.c:84:5: warning:  
passing argument 1 of ‘\_Objects\_Name\_to\_id\_u32’ from incompatible pointer type

This happens building many/all BSPs.

**Author:** Trac Migrate 2015-11-04T06:41:48.000Z

- **Version** changed from ~”4.11” to ~”4.12”

**Author:** Trac Migrate 2016-01-05T12:02:40.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

[893f9efe10142279fa2d445b1305e5359f1d5188/rtems]

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.879 2454 - Warning in threadqops.c

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2454                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-11-03T15:52:20.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::4.11, version::4.12, version::5                             |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2454">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2454</a> |
| <b>Merges</b>      | 0                                                                                                                             |

This may apply to the 4.11 branch as well. I am not sure.

```
../../../../../../../../rtems/c/src/../../../../cpukit/score/src/threadqops.c:202:29: warning: passing argument 1 of '_RBTREE_initialize_empty' from incompatible pointer type
```

This happens building many/all BSPs.

**Author:** Trac Migrate 2015-11-04T06:41:32.000Z

- **Version** changed from ~"4.11" to ~"4.12"

**Author:** Trac Migrate 2015-11-04T06:53:44.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset eab538cf9e6c16f3ff902bf340ed0111d58fc35b:

score: Fix warning Close [#2454](#).

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.880 2446 - Remove M32R Architectural Port

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2446                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                                 |
| <b>Created</b>     | 2015-11-03T14:41:42.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, version::4.11                                                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2446">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2446</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Remove the M32R port per the instructions at [https://devel.rtems.org/wiki/Developer/Removing\\_a\\_Port](https://devel.rtems.org/wiki/Developer/Removing_a_Port).

All BSPa must be removed before the architectural port can be removed. These are tracked by the following tickets:

#### 2447 - m32rsim

Rationale: The M32R port is incomplete, appears to have no users, and the CPU architecture is end-of-lifed.

**Author:** Joel Sherrill 2015-11-03T14:42:47.000Z

- **Description** changed

```

1 Remove the M32R port per the instructions at \ |md_0_8203|\ https://
2   ↪devel.rtems.org/wiki/Developer/Removing_a_Port.
3
4 All BSPa must be removed before the architectural port can be removed.
5 These are tracked by the following tickets:
6
7 - #2442 - m32rsim
8   ?      ^
9
10 + #2447 - m32rsim
11   ?      ^
12

```

(continues on next page)

(continued from previous page)

13 Rationale: The M32R port is incomplete, appears to have no users, and ↪ the CPU architecture is end-of-lived.

**Author:** Trac Migrate 2017-02-15T13:50:44.000Z

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-06-08T07:26:03.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Port has been removed by [f5201df0dc70e4510c7a6862a96d66175fbbf514/rtems].

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.881 2443 - Remove AVR Architectural Port

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2443                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2015-11-02T18:04:16.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, version::4.11                                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2443">https://gitlab.rtems.org/rtems/rtems/-/issues/2443</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Remove the AVR port per the instructions at [https://devel.rtems.org/wiki/Developer/Removing\\_a\\_Port](https://devel.rtems.org/wiki/Developer/Removing_a_Port).

All BSPa must be removed before the architectural port can be removed. These are tracked by the following tickets:

-

## 2442 - avrtest

Rationale: The AVR port is incomplete and the largest AVR CPU models are just barely large enough to run RTEMS. This by itself is not enough to drop the port. However, the state of GCC for this target is poor. It is marginally maintained. Atmel maintains their own patch set independent of GCC. Plus they use their own small (and unique) C Library. This makes avr-rtems the only user of AVR+newlib. The target size is a challenge but that was why the port was initially interesting. It provided a real goal. But the tool state is painful for a port which is incomplete and has neither users nor anyone interested in actively maintaining it for GCC or RTEMS.

**Author:** Joel Sherrill 2015-11-03T14:38:42.000Z

- **Description** changed

```

1 Remove the AVR port per the instructions at https://devel.rtems.org/
  ↪ wiki/Developer/Removing_a_Port.
2
3 All BSPa must be removed before the architectural port can be removed. ↪
  ↪ These are tracked by the following tickets:
4
5 * #2442 - avrtest
6 +
7 + Rationale: The AVR port is incomplete and the largest AVR CPU models ↪
  ↪ are just barely large enough to run RTEMS. This by itself is not ↪
  ↪ enough to drop the port. However, the state of GCC for this target is ↪
  ↪ poor. It is marginally maintained. Atmel maintains their own patch ↪
  ↪ set independent of GCC. Plus they use their own small (and unique) C ↪
  ↪ Library. This makes avr-rtems the only user of AVR+newlib. The target ↪
  ↪ size is a challenge but that was why the port was initially ↪
  ↪ interesting. It provided a real goal. But the tool state is painful ↪
  ↪ for a port which is incomplete and has neither users nor anyone ↪
  ↪ interested in actively maintaining it for GCC or RTEMS.
```

**Author:** Trac Migrate 2016-01-20T01:40:58.000Z

- **Owner** set to Joel Sherrill <joel@rtems.org>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 15068f4c9afd2d5ca6a77d510059d6306c9a3be6:

Remove AVR port closes #2443.

**Author:** Trac Migrate 2016-01-20T07:31:40.000Z

In changeset 1d308a13210edd54133235e0bc015080f9191bd5:

bsps: Resurrect ARM port Remove AVR port instead. Bug introduced by 15068f4c9afd2d5ca6a77d510059d6306c9a3be6. Update #2443.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.882 2441 - lpc1768 variants fail to build with error in gpio.c

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2441                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2015-11-02T17:12:09.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::5                                                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2441">https://gitlab.rtems.org/rtems/rtems/-/issues/2441</a> |
| <b>Merges</b>      | 0                                                                                                                   |

arm-lpc1768\_mbed\_ahb\_ram\_eth arm-lpc1768\_mbed\_ahb\_ram arm-lpc1768\_mbed

In file included from ../../../../../../../../../../rtems/c/src/lib/libbsp/arm/lpc176x/gpio/gpio.c:25:0:  
../../../../../../../../../../../../lpc1768\_mbed\_ahb\_ram\_eth/lib/include/bsp/gpio.h:28:4: error: #error  
"BSP\_GPIO\_PIN\_COUNT or BSP\_GPIO\_PINS\_PER\_BANK is not defined."

error "BSP\_GPIO\_PIN\_COUNT or BSP\_GPIO\_PINS\_PER\_BANK is not defined."

^ ../../../../../../../../../../lpc1768\_mbed\_ahb\_ram\_eth/lib/include/bsp/gpio.h:32:4: error: #error  
"Invalid BSP\_GPIO\_PIN\_COUNT or BSP\_GPIO\_PINS\_PER\_BANK."

error "Invalid BSP\_GPIO\_PIN\_COUNT or BSP\_GPIO\_PINS\_PER\_BANK."

^ ../../../../../../../../../../lpc1768\_mbed\_ahb\_ram\_eth/lib/include/bsp/gpio.h:41:5: error: division  
by zero in #if

if GPIO\_LAST\_BANK\_PINS > 0

^  
../../../../../../../../../../../../rtems/c/src/lib/libbsp/arm/lpc176x/gpio/gpio.c:29:8:  
error: unknown type name 'lpc176x\_registered\_interrupt\_function'  
static lpc176x\_registered\_interrupt\_function function\_vector[  
../../../../../../../../../../../../rtems/c/src/lib/libbsp/arm/lpc176x/gpio/gpio.c:30:3:  
error: 'LPC176X\_RESERVED\_ISR\_FUNCT\_SIZE' undeclared here  
(not in a function) LPC176X\_RESERVED\_ISR\_FUNCT\_SIZE ];  
../../../../../../../../../../../../rtems/c/src/lib/libbsp/arm/lpc176x/gpio/gpio.c:35:9: error: unknown  
type name 'lpc176x\_gpio\_direction' const lpc176x\_gpio\_direction dir



---

**Author:** Trac Migrate 2015-11-04T06:44:51.000Z

---

This BSP is not maintained by us.

---

**Author:** Trac Migrate 2015-11-05T14:28:51.000Z

---

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset 1d55e157ca9f4a9ff806f8fa5fcc79b03a7b8178:

LPC1768: Fix compilation error The LPC1768 variants have a gpio.h file whose name clashes with the gpio.h from the new GPIO API. This results on the BSPs failing to compile. This patch renames the LPC1768 gpio.\* files to lpc-gpio.\*, as it's done on other BSPs (e.g. Beaglebone). Closes [#2441](#).

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.883 2428 - Add 4.12 Tool Target Configurations to RSB

|                    |                                                                                                                                    |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2428                                                                                                                               |
| <b>State</b>       | closed                                                                                                                             |
| <b>Type</b>        | ISSUE                                                                                                                              |
| <b>Author</b>      | Joel Sherrill                                                                                                                      |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                        |
| <b>Created</b>     | 2015-10-16T19:26:40.000Z                                                                                                           |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                           |
| <b>Milestone</b>   | 5.1                                                                                                                                |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, tool::rtems-source-builder, version::4.10, version::4.12, version::5 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2428">https://gitlab.rtems.org/rtems/rtems/-/issues/2428</a>                |
| <b>Merges</b>      | 0                                                                                                                                  |

Even though so far the 4.11 and master tools don't need to be different, 4.12 configurations need to be added. This gives us space to:

- (DONE) remove obsolete targets (avr, h8300, m32r)
- (DONE) update versions
- complete submission of patches and bump gdb

- ...

**Author:** Joel Sherrill 2016-01-20T01:32:54.000Z

- **Description** changed

```

1 Even though so far the 4.11 and master tools don't need to be different,
2 ↪ 4.12 configurations need to be added. This gives us space to:
3
4 - + remove obsolete targets (avr, m32c, m32r)
5   ?                               ^  ^^
6
7 + + (DONE) remove obsolete targets (avr, h8300, m32r)
8   ?  ++++++                ^^ ^^
9
10 - + update versions
11 + + (DONE) update versions
12   ?  ++++++
13
14 + complete submission of patches and bump gdb
15 + ...

```

- **Version** changed from ~"4.10" to ~"4.12"

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Chris Johns 2017-10-11T23:14:27.000Z

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

This was done a long time ago.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.884 2423 - rtems\_iterate\_over\_all\_threads lacks user callback private pointer pass through

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2423                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-09-22T00:12:13.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, version::4.10                                                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2423">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2423</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: johill

Typically when designing an API that calls a user callback there is a user private “void \*” pointer transparently passed through to the user callback so that the user can access his private state inside of his callback without being forced to employ a global variable. A global variable doesn't work very well if there are multiple objects instances created each of them using the same method with rtems\_iterate\_over\_all\_threads. This type of “void \*” private pointer is of course a standard approach allowing the users callback to behave much the same way as a virtual method in C++, but nevertheless retaining a compatible C based API.

An enhanced version of the API might look like this.

```
void rtems_iterate_over_all_threads_xxx( rtems_per_thread_routine routine, void * const
pUserPrivatePassThrogh );
```

```
typedef void (*rtems_per_thread_routine_xxx)( Thread_Control *the_thread, void * const
pUserPrivatePassThrogh );
```

The pUserPrivatePassThrogh is not used by the library; it is retained for the duration of the rtems\_iterate\_over\_all\_threads\_xxx function only so that it can be passed through to the user's callback.

thanks for your consideration of this matter

---

**Author:** Trac Migrate 2015-09-22T15:35:30.000Z

---

Original author: johill

PS: I am using rtems\_iterate\_over\_all\_threads to implement a task mode, thread aware, Ethernet connected GDB stub. When GDB attaches it stops certain threads and sends their status depending on its operating modes, but this of course should not apply to the GDB communication threads. Therefore there needs to be a way to iterate through all of the threads checking each of them to determine if they are tagged as being GDB stop-mode immune.

---

**Author:** Trac Migrate 2015-09-22T20:02:27.000Z

---

Original author: johill

PPS: In thread.h and iterateoverthreads.c one could create some code like this. A possible implementation.

```
/** This defines the type for a method which operates on a single thread.
 */ typedef void (*rtems_per_thread_routine)( Thread_Control * ); typedef void
(*rtems_per_task_function)( Thread_Control *, void * const pUserPrivate );

/** * This routine iterates over all threads regardless of API and * invokes the spec-
ified routine. */ void rtems_iterate_over_all_threads( rtems_per_thread_routine
routine );

void rtems_thread_per_each_callback(rtems_per_task_function pFunction, void *
const pUserPrivate );

void rtems_thread_per_each_callback(rtems_per_task_function pFunction, void *
const pUserPrivate ) { uint32_t i; uint32_t api_index; Thread_Control *the_thread;
Objects_Information *information;

if ( !pFunction ) return;

for ( api_index = 1 ; api_index <= OBJECTS_APIS_LAST ; api_index++ ) { if (
!_Objects_Information_table[ api_index ] ) continue;

information = _Objects_Information_table[ api_index ][ 1 ]; if ( !information ) con-
tinue;

for ( i=1 ; i <= information->maximum ; i++ ) { the_thread = (Thread_Control
*)information->local_table[ i ];

if ( !the_thread ) continue;

(*pFunction)(the_thread,pUserPrivate); } }

}
```

---

**Author:** Trac Migrate 2015-09-22T20:07:16.000Z

---

Original author: johill

Ok, yes, the names I choose are pretty lame.

---

**Author:** Trac Migrate 2016-10-31T12:38:33.000Z

---

Original author: johill

- **Milestone** changed from %”4.11.1” to %”4.12”

---

**Author:** Trac Migrate 2016-11-02T08:13:53.000Z

---

Original author: johill

In changeset d271c3bb78f86dd9417a964b019b8e38911064fa:

rtems: Add rtems\_task\_iterate() Update [#2423](#).

---

**Author:** Trac Migrate 2016-11-02T08:14:03.000Z

---

Original author: johill

In changeset 4cf58905b825ea8d2b9d677dc32d529390052d3a:

cpuuse: Use rtems\_task\_iterate() Update [#2423](#).

---

**Author:** Trac Migrate 2016-12-14T14:25:44.000Z

---

Original author: johill

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

Documentation update done.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: johill

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: johill

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.885 2407 - Enable function and data sections

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2407                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                                 |
| <b>Created</b>     | 2015-09-02T12:29:49.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::build, ticket-type::enhancement, version::4.10                                    |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2407">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2407</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

In order to reduce the size of executables it is beneficial to put all global functions and data into separate sections. This enables the linker to perform a garbage collection which removes all items not directly referenced. The following steps are necessary:

1. Modify the build system to use the following compiler and linker flags:

CFLAGS += -ffunction-sections -fdata-sections LDFLAGS += -Wl,-gc-sections

2. Review all linker command files and ensure that linker sets and global constructor sections are not affected by the garbage collection (e.g. use the KEEP() directive of GNU ld).

---

**Author:** Joel Sherrill 2016-03-11T00:12:28.000Z

---

Original author: sebastian.huber

Closing. This has been done and distributed to other tickets when specific issues were encountered.

---

**Author:** Joel Sherrill 2016-03-11T00:12:40.000Z

---

Original author: sebastian.huber

- **Owner** set to @joel
- **Status** changed from *new* to *assigned*

---

**Author:** Joel Sherrill 2016-03-11T00:12:47.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.886 2385 - Warning from commit “bsps/arm: Do not use \_\_ARM\_ARCH\_7A\_\_”

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2385                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-08-06T02:15:14.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:arm, bsp, priority::high, resolution::fixed, tickettype::enhancement, version::4.11, version::4.12, version::5           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2385">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2385</a> |
| <b>Merges</b>      | 0                                                                                                                             |

This change <https://git.rtems.org/rtems/commit/?h=4.11&id=d0733bb8> generate a warning in user code. The warning is:

```

1 .../arm-errata.h:45:1: warning: 'in line' is not at beginning of declaration [-
  ↳Wold-style-declaration]
2 static bool inline arm_errata_is_applicable_processor_errata_764369(void)
3 ^

```

**Author:** Trac Migrate 2015-09-04T11:51:14.000Z

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

In changeset fc5e52b93837da575a73d5f1d783732587f8ec4e:

bsps/arm: Fix function definition Close #2385.

**Author:** Trac Migrate 2015-09-04T11:52:58.000Z

- **Milestone** changed from %”4.11.1” to %”4.12”
- **Version** changed from ~”4.11” to ~”4.12”

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

## 4.2.1.887 2377 - rtems\_waf: Tools without a version are not supported

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2377                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2015-07-31T08:30:35.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::wontfix, tickettype::defect, tool, version::4.11, version::4.12, version::5           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2377">https://gitlab.rtems.org/rtems/rtems/-/issues/2377</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

waf configure --prefix=/opt/rtems --rtems=/opt/rtems --rtems-tools=/opt/rtems --rtems-bsps=i386/pc686 Setting top to : /scratch/git-rtems-libbsd Setting out to : /scratch/git-rtems-libbsd/build Could not find any architectures (complete log in /scratch/git-rtems-libbsd-upstream/build/config.log)

**Author:** Chris Johns 2015-07-31T22:17:34.000Z

Original author: sebastian.huber

I do not understand the issue. What does tools without a version mean ?

**Author:** Trac Migrate 2015-09-11T09:03:45.000Z

Original author: sebastian.huber

For example sparc-rtems-gcc, etc.

This is used by some third-party tools, like the Gaisler RCC.

**Author:** Chris Johns 2015-09-13T22:49:42.000Z

Original author: sebastian.huber

The rtems\_waf module is designed to look at a standard versioned RTEMS tree that is built and installed. We have had versioning since 4.7. The module checks for the architectures requested are installed versioned. Changes to stop this adds complexity and increase testing in an area I would prefer not to do.

I understood Gaisler is supporting versioned tools. What other 3rd party tool set are you referring to ?

**Author:** Trac Migrate 2015-09-14T06:18:41.000Z



Original author: sebastian.huber

The RCC archives use a version:

<http://gaisler.com/anonftp/rcc/bin/linux/>

However, the tools use all a sparc-rtems- prefix without a version.

I found it convenient to use this scheme for the RTEMS master as well. You can build the tools with an arbitrary string after the target-rtems, e.g. sparc-rtemsfoobarblug99.abc is also allowed.

---

**Author:** Chris Johns 2015-09-14T06:35:54.000Z

---

Original author: sebastian.huber

Replying to [sebastian.huber](#):

The RCC archives use a version: <http://gaisler.com/anonftp/rcc/bin/linux/>

These look like old tools. My understanding is un-versioned tools would not be be part of any 4.11 version and the last un-versioned tools by Gaisler was 4.10.

However, the tools use all a sparc-rtems- prefix without a version.

We should not and really cannot support un-versioned tools in the project. I will discourage any efforts to make it supported.

I found it convenient to use this scheme for the RTEMS master as well. You can build the tools with an arbitrary string after the target-rtems, e.g. sparc-rtemsfoobarblug99.abc is also allowed.

Did you try the `-rtems-version` option, ie `-rtems-version=foobarblug99.abc` ?

I support any version label and encourage custom ones for a specific user build. It is just no versioning I wish to discourage.

Note, the waf based rtems-config support has a bug with a hardcoded version.

---

**Author:** Trac Migrate 2015-09-14T06:49:48.000Z

---

Original author: sebastian.huber

- Cc added @daniel

Replying to [chrisj](#):

Replying to [sebastian.huber](#):

The RCC archives use a version: <http://gaisler.com/anonftp/rcc/bin/linux/>

These look like old tools. My understanding is un-versioned tools would not be part of any 4.11 version and the last un-versioned tools by Gaisler was 4.10.

The preliminary RCC for 4.11 has still un-versioned tools:

<http://www.gaisler.com/anonftp/rcc/smp/nov2014/sparc-rtems-4.11-gcc-4.9.2-1.2.99.1-linux.tar.bz2>

However, the tools use all a sparc-rtems- prefix without a version.

We should not and really cannot support un-versioned tools in the project. I will discourage any efforts to make it supported.

Ok, then Gaisler should adjust their RCC structure.

I found it convenient to use this scheme for the RTEMS master as well. You can build the tools with an arbitrary string after the target-rtems, e.g. sparc-rtemsfoobarblug99.abc is also allowed.

Did you try the `-rtems-version` option, ie `-rtems-version=foobarblug99.abc` ? I support any version label and encourage custom ones for a specific user build. It is just no versioning I wish to discourage. Note, the waf based rtems-config support has a bug with a hardcoded version.

No, I didn't build the tools with such a version label.

**Author:** Chris Johns 2015-09-14T07:30:46.000Z

Original author: sebastian.huber

Replying to [sebastian.huber](#):

Replying to [chrisj](#):

Replying to [sebastian.huber](#):

The RCC archives use a version: <http://gaisler.com/anonftp/rcc/bin/linux/>

These look like old tools. My understanding is un-versioned tools would not be part of any 4.11 version and the last un-versioned tools by Gaisler was 4.10.

The preliminary RCC for 4.11 has still un-versioned tools:  
<http://www.gaisler.com/anonftp/rcc/smp/nov2014/sparc-rtems-4.11-gcc-4.9.2-1.2.99.1-linux.tar.bz2>

Sigh. These being in the wild un-versioned is unfortunate.

However, the tools use all a sparc-rtems- prefix without a version.

We should not and really cannot support un-versioned tools in the project. I will discourage any efforts to make it supported.

Ok, then Gaisler should adjust their RCC structure.

Yes. We have to put an end to users appearing on the mailing list with questions and we are guessing the origin of the tools. This is the reason we have asked for the change. Joel and I are clear in our understanding of what was to happen. I checked with him last night his time.

---

**Author:** Trac Migrate 2015-09-17T14:27:56.000Z

---

Original author: sebastian.huber

Hi,

Joel has discussed this with us some time ago and we agreed that we need to change the RCC naming. The temporary toolchain you can find via the gaisler.com home-page used still the old prefix and built by the old build scripts we have had. We were planning on using RSB initially but has not converted to it yet, however the old build script was updated recently which generates a toolchain with the prefix "sparc-rcc-rtems4.11-" as previously discussed. So next RCC release on rtems-4.11 will have that prefix. Please let me know if you see any trouble with us using that prefix.

Regards, Daniel

---

**Author:** Joel Sherrill 2015-09-18T21:07:42.000Z

---

Original author: sebastian.huber

The unversioned tools should still work with 4.11. There is no issue there because it is still only autoconf.

This is an issue with the waf build. That will be 4.12 or 5.x but not 4.11. We need to make sure the target used for the Gaisler tools (sparc-rcc-rtems4.11-) is accepted OK. That should only be a matter of the wildcard pattern recognizing the CPU-rtemsVERSION or CPU-vendor-rtemsVERSION form of the target. The is actually GNUitically correct since the target technically has three parts. When the vendor isn't provided, it is assumed to be unknown.

---

**Author:** Trac Migrate 2017-01-26T07:05:37.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.11" to %"4.11.2"

---

**Author:** Chris Johns 2017-03-21T03:40:59.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.11.2" to %"4.12"
- **Version** changed from ~"4.11" to ~"4.12"

Moved to master.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-06-08T08:35:44.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.888 2367 - Documentation of User Extensions needs more information

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2367                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2015-06-15T17:30:11.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | doc, priority::low, resolution::fixed, tickettype::enhancement, version::4.11, version::4.12, version::5            |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2367">https://gitlab.rtems.org/rtems/rtems/-/issues/2367</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: mw

The documentation for User Extension sets in the C User's Guide could use some clarification. It discusses the multiple sets of extensions, but it is unclear as to whether or not the extensions are

added or replaced when `rtems_extension_create()` is called. There is a section - 22.2.4 (Order of Invocation) that does discuss the operation of the sets, but it only makes sense once the reader understands that the sets are, in fact, additive.

**Author:** Joel Sherrill 2015-06-16T00:00:18.000Z

Original author: mw

Any other questions you would like to see answered? The points you mention are relatively straightforward to address but the email thread had a lot going on and I wanted to make sure all your questions got reflected in the changes.

**Author:** Trac Migrate 2015-06-17T16:53:23.000Z

Original author: mw

No, I think all of my questions were stemming from that initial confusion. I thought I had to somehow extract the extensions that were previously installed in order to call them back myself; once I realized that they were layered (and the OS was doing the sequential calling), it all fell into place and I understood what was going on.

Replying to [joel.sherrill](#):

Any other questions you would like to see answered? The points you mention are relatively straightforward to address but the email thread had a lot going on and I wanted to make sure all your questions got reflected in the changes.

**Author:** Chris Johns 2017-08-14T00:43:58.000Z

Original author: mw

- **Milestone** set to %"4.12.0"
- **Version** changed from ~"4.11" to ~"4.12"

**Author:** Trac Migrate 2017-08-24T07:57:40.000Z

Original author: mw

- **Owner** set to Sebastian Huber <[sebastian.huber@embedded-brains.de](mailto:sebastian.huber@embedded-brains.de)>
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In [changeset:"6eef7a4b154007e210f4e1e7928e3f9854a13f89/rtems-docs" 6eef7a4/rtems-docs]:

```
1 c-user: Clarify user extensions
2
3 Close #2367.
```

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: mw

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.889 2366 - Create a Public API for the Atomic Operations

|                    |                                                                                                                         |
|--------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2366                                                                                                                    |
| <b>State</b>       | closed                                                                                                                  |
| <b>Type</b>        | ISSUE                                                                                                                   |
| <b>Author</b>      | Joel Sherrill                                                                                                           |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                            |
| <b>Created</b>     | 2015-06-11T15:16:31.000Z                                                                                                |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                |
| <b>Milestone</b>   | 5.1                                                                                                                     |
| <b>Labels</b>      | priority::normal, resolution::wontfix, rtems::score, ticket-type::enhancement, version::4.11, version::4.12, version::5 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2366">https://gitlab.rtems.org/rtems/rtems/-/issues/2366</a>     |
| <b>Merges</b>      | 0                                                                                                                       |

Ticket #2364 regarded use of a pthread mutex in three graphics driver as basically an atomic flag to ensure only one open() was active at a time. This created an unnecessary dependency on the POSIX API being enabled. I changed the code to use score Atomic flags.

This highlighted the need for a public Atomic API.

The existing tests could be converted to the public API, a macro wrapper written for Classic API Atomics, and documentation added. This may be enough to be a small GSOC project.

---

**Author:** Trac Migrate 2017-01-23T06:46:39.000Z

---

Why not simply use C11/C++11 atomic operations?

---

**Author:** Chris Johns 2017-08-14T00:06:50.000Z

---

- **Milestone** changed from %"5.0" to %"4.12.0"
- **Version** changed from ~"4.11" to ~"4.12"

Should the API in 'sys/locks.h' be used?

---

**Author:** Trac Migrate 2017-08-24T07:23:30.000Z

---

- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

Since C11 or C++11 is now the default in GCC users can simply use the standard atomic operations.

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.890 2354 - Replace red-black tree implementation, change API

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2354                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2015-05-28T09:39:15.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, version::4.11                                         |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2354">https://gitlab.rtems.org/rtems/rtems/-/issues/2354</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The RTEMS red-black tree implementation is not as good as the BSD implementation which performs quite well in a benchmark:

<https://github.com/sebhub/rb-bench>

Proposal:

<https://github.com/sebhub/rb-bench/blob/master/test-rbtree-bsd-for-rtems.c>

One benefit is that the search/insert is done inline and the red-black tree fixup is done in a general purpose `_BSD_RBTree_Insert_color()` function (similar to the Linux red-black tree API).

This makes it possible to get rid of the red-black tree implementation used by the JFFS2 support.

---

**Author:** Chris Johns 2017-08-14T00:05:18.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"5.0" to %"Indefinite"
- **Version** ~"4.11" deleted

---

**Author:** Trac Migrate 2017-08-21T05:21:29.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"4.12.0"

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-09T06:27:14.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.891 2350 - One watchdog ticks header per scheduler instance

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2350                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-05-20T07:25:28.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | cpukit, priority::normal, resolution::fixed, rtems::score, smp, ticket-type::enhancement, version::4.11                       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2350">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2350</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

Currently there is one watchdog header for all ticks based watchdogs. This is not scalable. For example on the Freescale T4240 platform with 24-processors we observe in the smptests/smpwakeafter01 test a maximum thread dispatch disabled time of 3.8ms on processor 0 and 1.7ms on the other processors.

```

1 <PerCPUProfilingReport processorIndex="0">
2 <MaxThreadDispatchDisabledTime unit="ns">3807457</MaxThreadDispatchDisabledTime>
3 <MeanThreadDispatchDisabledTime unit="ns">124091</MeanThreadDispatchDisabledTime>
4 <TotalThreadDispatchDisabledTime unit="ns">1706880473</
  ↳TotalThreadDispatchDisabledTime>
5 <ThreadDispatchDisabledCount>13755</ThreadDispatchDisabledCount>
6 <MaxInterruptDelay unit="ns">0</MaxInterruptDelay>
7 <MaxInterruptTime unit="ns">24661</MaxInterruptTime>
8 <MeanInterruptTime unit="ns">10148</MeanInterruptTime>
9 <TotalInterruptTime unit="ns">127682501</TotalInterruptTime>
10 <InterruptCount>12582</InterruptCount>
11 </PerCPUProfilingReport>
12 <PerCPUProfilingReport processorIndex="1">
13 <MaxThreadDispatchDisabledTime unit="ns">1715826</MaxThreadDispatchDisabledTime>
14 <MeanThreadDispatchDisabledTime unit="ns">102805</MeanThreadDispatchDisabledTime>
15 <TotalThreadDispatchDisabledTime unit="ns">1884937615</
  ↳TotalThreadDispatchDisabledTime>

```

(continues on next page)



(continued from previous page)

```

16 <ThreadDispatchDisabledCount>18335</ThreadDispatchDisabledCount>
17 <MaxInterruptDelay unit="ns">0</MaxInterruptDelay>
18 <MaxInterruptTime unit="ns">47</MaxInterruptTime>
19 <MeanInterruptTime unit="ns">12</MeanInterruptTime>
20 <TotalInterruptTime unit="ns">8299</TotalInterruptTime>
21 <InterruptCount>664</InterruptCount>
22 </PerCPUProfilingReport>
23 <SMPLockProfilingReport name="Watchdog">
24 <MaxAcquireTime unit="ns">47020</MaxAcquireTime>
25 <MaxSectionTime unit="ns">2709</MaxSectionTime>
26 <MeanAcquireTime unit="ns">31</MeanAcquireTime>
27 <MeanSectionTime unit="ns">52</MeanSectionTime>
28 <TotalAcquireTime unit="ns">990203330</TotalAcquireTime>
29 <TotalSectionTime unit="ns">1674926849</TotalSectionTime>
30 <UsageCount>31604848</UsageCount>
31 <ContentionCount initialQueueLength="0">10574</ContentionCount>
32 <ContentionCount initialQueueLength="1">8168</ContentionCount>
33 <ContentionCount initialQueueLength="2">8578</ContentionCount>
34 <ContentionCount initialQueueLength="3">31577528</ContentionCount>
35 </SMPLockProfilingReport>

```

The watchdog lock is highly contended and since the watchdog insert procedure acquires and releases the lock during the iteration of the watchdog chain several times, this yields the high thread dispatch disabled times.

To get rid of this bottleneck we should move the watchdog context into the scheduler context to use one watchdog context per scheduler instance. Take care that active watchdogs move in case of a scheduler change of a thread.

**Author:** Chris Johns 2017-08-14T00:08:57.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.0" to %"Indefinite"
- **Version** ~"4.11" deleted

**Author:** Trac Migrate 2017-08-21T05:26:59.000Z

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"4.12.0"
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

There is now one watchdog header per processor.

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

#### 4.2.1.892 2344 - Second argument of ualarm() is ignored

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2344                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-05-11T12:47:28.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::4.10                                                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2344">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2344</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

I don't think this is in line with POSIX.

**Author:** Joel Sherrill 2015-05-12T22:32:45.000Z

Original author: sebastian.huber

Would converting the second argument (interval) to ticks, saving it in a static variable, and using `_Watchdog_Insert_ticks()` in the TSR instead of `_Watchdog_Reset_ticks()` be enough to solve this?

Also this method was deprecated/obsoleted in one edition of POSIX but the current edition doesn't appear to mention that if I read the pages correctly.

**Author:** Trac Migrate 2015-05-13T06:36:28.000Z

Original author: sebastian.huber

Something like this should do it. I added this report as a note since I don't have time for this currently.

**Author:** Trac Migrate 2016-02-22T13:08:29.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.11.1” to %”4.12”
- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*

**Author:** Trac Migrate 2016-02-22T14:33:39.000Z

Original author: sebastian.huber

In changeset 5d478af46b2bd928f32cb8977164fe03d161c77f:

psxtests/psxalarm: Add test cases Update [#2344](#).

**Author:** Trac Migrate 2016-03-04T14:00:20.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

[03b900d3ed120ea919ea3eded7edbece3488cff3/rtems]

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.893 2325 - Broken console driver infrastructure for SPARC

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2325                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2015-04-17T06:59:46.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | arch:sparc, priority::normal, resolution::fixed, tickettype::defect, version::4.11, version::4.12, version::5       |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2325">https://gitlab.rtems.org/rtems/rtems/-/issues/2325</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

The stuff in "c/src/lib/libbsp/sparc/shared/uart/cons.c" should get removed and the new Termios device API should be used instead (see also `rtems_termios_device_install()`).

---

**Author:** Trac Migrate 2015-05-28T08:02:11.000Z

---

Original author: sebastian.huber

- **Summary** changed from *Superfluous console driver infrastructure for SPARC* to *Broken console driver infrastructure for SPARC*

The console devices installed with this driver are broken on SMP (attribute changes are not properly synchronized). In case RTEMS\_DRVMGR\_STARTUP is defined, then the SMP capable console driver “c/src/lib/libbsp/sparc/leon3/console/console.c” is disabled.

---

**Author:** Trac Migrate 2015-12-30T18:46:26.000Z

---

Original author: sebastian.huber

Upon further inspection, c/src/lib/libbsp/sparc/shared/uart/cons.c and c/src/lib/libbsp/sparc/shared/include/cons.h do not appear to be referenced from anywhere, and contain dead code. These can be removed safely.

---

**Author:** Joel Sherrill 2015-12-30T19:12:51.000Z

---

Original author: sebastian.huber

I don't think the files are referenced either.

---

**Author:** Trac Migrate 2016-01-04T09:06:51.000Z

---

Original author: sebastian.huber

The file cons.c defines console\_initialize() etc., so it is referenced in case you add a console driver to your application configuration.

---

**Author:** Trac Migrate 2017-01-25T13:42:57.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %”4.11” to %”4.12”

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %”4.12” to %”4.12.0”

---

**Author:** Chris Johns 2017-08-14T00:03:18.000Z

---

Original author: sebastian.huber

- **Version** changed from ~"4.11" to ~"4.12"

Any updates for this ticket? The severity is blocker

**Author:** Trac Migrate 2017-08-22T08:24:51.000Z

Original author: sebastian.huber

The cons.c is used by the apbuart\_cons.c driver used with the driver manager. cons.c and apbuart\_cons.c were updated for SMP and to use the new termios device registration in H1 2017 (see patches from –author="maberg@gaisler.com"). Therefore I think we can close this ticket now.

**Author:** Trac Migrate 2017-08-22T08:25:20.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.894 2308 - Change uniprocessor INIT task mode to preempt.

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2308                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Chris Johns                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-03-17T03:00:10.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::enhancement, version::4.11, version::4.12, version::5                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2308">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2308</a> |
| <b>Merges</b>      | 0                                                                                                                             |

The current INIT task mode for a uni-processor build is NO\_PREEMPT. This is not possible on an SMP system and so the default mode is PREEMPT. Both system should be the same and so the uniprocessor mode should be changed.

**Author:** Chris Johns 2017-08-14T00:01:57.000Z

- **Milestone** changed from %”5.0” to %”4.12.0”
- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*
- **Version** changed from ~”4.11” to ~”4.12”

This is fixed on the master branch (4.12). The mode is NO\_PREEMPT for non-SMP builds only.

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.895 2306 - powerpc/mvme5500/vectors/exceptionhandler.c uses task variables

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2306                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-03-15T02:14:17.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | arch:powerpc, priority::normal, resolution::fixed, tickettype::defect, version::4.11                                          |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2306">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2306</a> |
| <b>Merges</b>      | 0                                                                                                                             |

I am addressing almost all uses of deprecated methods. They are mostly calls to `rtems_clock_get()` which can be easily corrected or test code which will be removed when the deprecated feature is removed.

This BSP however has what appears to be a unique feature – the ability for a thread to add a unique exception fault handler. My inclination is to rip this out but I am not doing it now. I am just turning off deprecated warnings for the file.

---

**Author:** Trac Migrate 2015-12-15T10:51:25.000Z

---

I suggest to remove the functionality of task specific exception handlers. In a multi-threaded environment exceptions affect the overall program, e.g. memory corruption.

---

**Author:** Joel Sherrill 2015-12-29T17:30:08.000Z

---

This code is disabled. It can't use notepads because they are obsoleted in 4.11 and removed after.

---

**Author:** Trac Migrate 2016-05-04T05:27:15.000Z

---

- **Milestone** changed from %"4.11.1" to %"4.12"
- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

[159b63701539f3e584668a4ace13c6109d3b364b/rtems]

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.896 2305 - sp07 needs to be split into an user extensions and a notepad test

|                    |                                                                                                                                 |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2305                                                                                                                            |
| <b>State</b>       | closed                                                                                                                          |
| <b>Type</b>        | ISSUE                                                                                                                           |
| <b>Author</b>      | Joel Sherrill                                                                                                                   |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                    |
| <b>Created</b>     | 2015-03-14T15:25:12.000Z                                                                                                        |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                        |
| <b>Milestone</b>   | 5.1                                                                                                                             |
| <b>Labels</b>      | priority::normal, resolution::wontfix, tickettype::defect, version::4.11                                                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/2305">https://gitlab.rtems.org/rtems/rtems/rtems/-/issues/2305</a> |
| <b>Merges</b>      | 0                                                                                                                               |

I was reviewing all code in the tree which uses deprecated methods. I will fix most of the cases. This is going to take a little more time. This test needs to be split apart. I think the notepad usage can go into a new test spnotepad02. It is primarily ensuring that two threads can exchange values through notepads.

The remaining use of notepads in sp07 can probably just be a count down on the priority.

I am starting to move code to spnotepad02 from sp07 that is not related to the tasks counting down.

Hopefully I can resolve this without much feedback.

---

**Author:** Trac Migrate 2017-01-25T12:22:55.000Z

---

- **Milestone** changed from %"4.11.1" to %"4.12"
- **Resolution** set to ~"wontfix"

- **Status** changed from *new* to *closed*

Notepads no longer exist in RTEMS 4.12.

---

**Author:** Trac Migrate    2017-05-11T07:31:02.000Z

---

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate    2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.897 2289 - rtems\_ada\_self is broken on SMP

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2289                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-03-09T09:47:22.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::duplicate, resolution::fixed, ticket-type::defect, tool::gcc, version::4.11                     |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2289">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2289</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

The global variable `rtems_ada_self` is broken on SMP (similar to the task variables) and should be replaced with a function call or thread specific data.

---

**Author:** Trac Migrate    2017-01-26T07:16:00.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.11.1" to %"4.11.2"

---

**Author:** Trac Migrate    2017-02-15T13:37:51.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.11.2" to %"Indefinite"
- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*



**Author:** Trac Migrate 2017-03-07T10:07:12.000Z

Original author: sebastian.huber

- **Resolution** set to ~"duplicate"
- **Status** changed from *assigned* to *closed*

Duplicate of [#2835](#).

**Author:** Trac Migrate 2017-05-23T08:01:52.000Z

Original author: sebastian.huber

- **Resolution** ~"duplicate" deleted
- **Status** changed from *closed* to *reopened*
- **Version** ~"4.11" deleted

One option is to use TLS, e.g.

```
1 diff --git a/gcc/ada/gcc-interface/Makefile.in b/gcc/ada/gcc-interface/
  ↪Makefile.in
2 index 598b262d914..5e1c5286d63 100644
3 --- a/gcc/ada/gcc-interface/Makefile.in
4 +++ b/gcc/ada/gcc-interface/Makefile.in
5 @@ -1743,7 +1743,7 @@ ifeq ($(strip $(filter-out rtems%, $(target_os))),)
6 s-parame.adb<s-parame-rtems.adb \
7 s-taprop.adb<s-taprop-posix.adb \
8 s-taspri.ads<s-taspri-posix.ads \
9 - s-tpopsp.adb<s-tpopsp-rtems.adb \
10 + s-tpopsp.adb<s-tpopsp-tls.adb \
11 s-stchop.adb<s-stchop-rtems.adb \
12 s-interr.adb<s-interr-hwint.adb
13 endif
```

Another option is to use POSIX keys:

```
1 diff --git a/gcc/ada/gcc-interface/Makefile.in b/gcc/ada/gcc-interface/
  ↪Makefile.in
2 index 598b262d914..5e1c5286d63 100644
3 --- a/gcc/ada/gcc-interface/Makefile.in
4 +++ b/gcc/ada/gcc-interface/Makefile.in
5 @@ -1743,7 +1743,7 @@ ifeq ($(strip $(filter-out rtems%, $(target_os))),)
6 s-parame.adb<s-parame-rtems.adb \
7 s-taprop.adb<s-taprop-posix.adb \
8 s-taspri.ads<s-taspri-posix.ads \
9 - s-tpopsp.adb<s-tpopsp-rtems.adb \
10 + s-tpopsp.adb<s-tpopsp-posix.adb \
11 s-stchop.adb<s-stchop-rtems.adb \
12 s-interr.adb<s-interr-hwint.adb
13 endif
```

I tend to use TLS since it has less overhead.

---

**Author:** Trac Migrate 2017-06-02T08:32:56.000Z

---

Original author: sebastian.huber

In [changeset:"3623c400ffb66db12e30d70f03946e1ca42f49d1/rtems" 3623c40/rtems]:

```
1 ada-tests/spatchb01: New test
2
3 Update #2289.
```

---

**Author:** Trac Migrate 2017-06-07T09:50:37.000Z

---

Original author: sebastian.huber

<https://gcc.gnu.org/viewcvs/gcc?view=revision&revision=248952>

---

**Author:** Joel Sherrill 2017-06-07T13:12:16.000Z

---

Original author: sebastian.huber

Just to be clear. We are using keys now for Ada. Does confdefs.h reflect this?

---

**Author:** Trac Migrate 2017-06-07T13:19:36.000Z

---

Original author: sebastian.huber

No, we used a hand crafted task variable for this. I will update RTEMS once the RSB is updated. Need to backport the GCC change to GCC 7 branch before.

---

**Author:** Trac Migrate 2017-06-07T13:52:17.000Z

---

Original author: sebastian.huber

This change breaks the x86 Ada support as long as x86 has no TLS support.

---

**Author:** Joel Sherrill 2017-06-07T17:49:23.000Z

---

Original author: sebastian.huber

So we are now using TLS for Ada.Self. I was thinking the POSIX default code used keys. That was the original implementation in GNAT. Is it TLS or POSIX keys?

---

**Author:** Trac Migrate 2017-06-08T05:29:44.000Z

---

Original author: sebastian.huber

On Linux and vxWorks TLS is used.

**Author:** Trac Migrate 2017-06-12T11:53:01.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *reopened* to *closed*

In [changeset:"c336dc9c06b7b401ac7df4a9872fc53b8cc6f4af/rtems-source-builder" c336dc9/rtems-source-builder]:

```
1 4.12: Add SMP support for Ada of GCC 7.1
2
3 Close #2289.
```

**Author:** Trac Migrate 2017-06-12T11:54:23.000Z

Original author: sebastian.huber

- **Milestone** changed from %"Indefinite" to %"4.12.0"

**Author:** Trac Migrate 2017-06-14T05:31:18.000Z

Original author: sebastian.huber

In [changeset:"3dd67dd16e90bf1ec62c991f824116ec5b5c625f/rtems" 3dd67dd1/rtems]:

```
1 score: Remove rtems_ada_self
2
3 This task variable is superfluous since we use thread-local storage now.
4
5 Update #2289.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.898 2284 - h8300 gets error linking dl0\* tests

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2284                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                   |
| <b>Created</b>     | 2015-03-06T14:30:50.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::wontfix, tickettype::defect, version::4.11                                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2284">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2284</a> |
| <b>Merges</b>      | 0                                                                                                                             |

```
rtems-syms -e -c "-mh -mint32 -O2 -g -Wall -Wmissing-prototypes -Wimplicit-function-
declaration -Wstrict-prototypes -Wnested-externs" -o dl-sym.o dl01.pre h8300-rtems4.11-
gcc -B../..../h8sim/lib/ -specs bsp_specs -qrtems -mh -mint32 -O2 -g -Wall -
Wmissing-prototypes -Wimplicit-function-declaration -Wstrict-prototypes -Wnested-
externs -mh -mint32 -o dl01.exe init.o dl-load.o dl-tar.o dl-sym.o dl-sym.o: In func-
tion `rtems_rtl_base_global_syms_init': rld-gTgaaa.c:(.text+0xa): undefined reference
to `rtems_rtl_base_globals_size' rld-gTgaaa.c:(.text+0x10): undefined reference to
`rtems_rtl_base_globals' collect2: error: ld returned 1 exit status
```

**Author:** Trac Migrate 2016-01-05T10:43:31.000Z

- **Milestone** changed from %"4.11.1" to %"4.12"
- **Resolution** set to ~"wontfix"
- **Status** changed from *new* to *closed*

h8300 support was removed in 4.12.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.899 2266 - Move bsp\_pretasking\_hook() into files named bsppretaskinghook.c

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2266                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Joel Sherrill                                                                                                                 |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2015-02-13T20:27:26.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::invalid, tickettype::defect, version::4.11                                                      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2266">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2266</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Over the past few years, we have split out the BSP required methods into their own files with consistent names. bsp\_pretasking\_hook() is next on the list.

```
$ grep -rl bsp_pretasking_hook .
./sparc/shared/bsppretaskinghook.c
./powerpc/score603e/startup/bspstart.c
./powerpc/beatnik/startup/bspstart.c
./powerpc/virtex5/startup/bspstart.c
./powerpc/virtex5/start/start.S
./powerpc/virtex4/startup/bspstart.c
./powerpc/virtex4/start/start.S
./powerpc/ep1a/startup/bspstart.c
./arm/lpc176x/startup/bspstart.c
./arm/lpc24xx/startup/bspstart.c
./bfin/bf537Stamp/startup/bspstart.c
./bfin/TLL6527M/startup/bspstart.c
./bfin/eZKit533/startup/bspstart.c
./shared/include/bootcard.h
./shared/bsppretaskinghook.c
./shared/bootcard.c
```

**Author:** Amar Takhar 2015-02-13T20:29:36.000Z

You really want to do this in milestone:4.11 and not milestone:5.0?

**Author:** Joel Sherrill 2015-02-13T20:31:02.000Z

- **Milestone** changed from %"4.11" to %"5.0"

**Author:** Trac Migrate 2017-01-24T07:37:25.000Z

- **Resolution** set to ~"invalid"
- **Status** changed from *new* to *closed*

The bsp\_pretasking\_hook() exists no longer, see #2408.

**Author:** Trac Migrate 2017-01-24T07:37:43.000Z

- **Milestone** changed from %"5.0" to %"4.12"

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %"4.12" to %"4.12.0"

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2017-11-09T06:27:14.000Z |
|------------------------------------------------------|

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.900 2261 - Add coverage report generation support to rtems-tools

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2261                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Joel Sherrill                                                                                                       |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2015-02-11T15:42:52.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, version::4.11, version::4.12, version::5                   |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2261">https://gitlab.rtems.org/rtems/rtems/-/issues/2261</a> |
| <b>Merges</b>      | 0                                                                                                                   |

This ticket is to capture the current state of the project started by Krzysztof Mięśowicz <[krzysztof.miesowicz@gmail.com](mailto:krzysztof.miesowicz@gmail.com)>. The goals of the project were to:

- replace the existing shell scripts in rtems-testing with Python code integrated into rtems-tools
- add the capability to generate a report per directory. This is important because a large body of code with low coverage negatively impacts the overall coverage area and makes reports harder to read. Breaking the reports down by functional area lets us do coverage reporting on more code even when some of the areas are in need of testing improvement.

The remaining effort in conjunction with other activity related to coverage such as inclusion of gcov generated reports is a good “summer of code” type project. This is an important capability to add to the rtems-tools.

The attached tar file krzy-patches.tar.bz2 contains the current code. There may be other issues to resolve but writing from memory, the following are the highest priority ones:

- no default setting for coverage enable/disable
- configuration file has hard coded paths. This should be able to be a template which is adjusted by the tools at run-time.
- variable naming and coding style does not match that used in other Python code in rtems-tools

Krzysztof wrote some in his blog about this (<http://kmiesowicz.blogspot.com/p/esa-socis-2014.html>). Ensure that your base RTEMS tools are built with the RTEMS Source Builder and check on the development list if it builds a qemu with coverage support. This may have changed since he blogged.

- [krzy-patches.tar.bz2](#)

**Author:** Joel Sherrill 2015-02-11T15:43:33.000Z

- **Attachment** [krzy-patches.tar.bz2](#) added

Patches for rtems-tools to add current coverage support

**Author:** Joel Sherrill 2015-02-11T15:46:37.000Z

- **Description** changed

```

1 This ticket is to capture the current state of the project started by
2 - Krzysztof Mi\ |md_0_281|\ sowicz <krzysztof.miesowicz@gmail.com>. The
  ↳ remaining effort in conjunction with other activity related to
  ↳ coverage such as inclusion of gcov generated reports is a good
  ↳ "summer of code" type project. This is an important capability to add
  ↳ to the rtems-tools.
3 + Krzysztof Mi\ |md_0_281|\ sowicz <krzysztof.miesowicz@gmail.com>. The
  ↳ goals of the project were to:
4 +
5 + * replace the existing shell scripts in rtems-testing with Python
  ↳ code integrated into rtems-tools
6 + * add the capability to generate a report per directory. This is
  ↳ important because a large body of code with low coverage negatively
  ↳ impacts the overall coverage area and makes reports harder to read.
  ↳ Breaking the reports down by functional area lets us do coverage
  ↳ reporting on more code even when some of the areas are in need of
  ↳ testing improvement.
7 +
8 + The remaining effort in conjunction with other activity related to
  ↳ coverage such as inclusion of gcov generated reports is a good
  ↳ "summer of code" type project. This is an important capability to add
  ↳ to the rtems-tools.
9
10 The attached tar file krzy-patches.tar.bz2 contains the current code.
  ↳ There may be other issues to resolve but writing from memory, the
  ↳ following are the highest priority ones:
11
12 * no default setting for coverage enable/disable
13 * configuration file has hard coded paths. This should be able to be a
  ↳ template which is adjusted by the tools at run-time.
14 * variable naming and coding style does not match that used in other
  ↳ Python code in rtems-tools
15
16 Krzysztof wrote some in his blog about this (http://kmiesowicz.blogspot.com/p/esa-socis-2014.html). Ensure that your base RTEMS tools are
  ↳ built with the RTEMS Source Builder and check on the development list
  ↳ if it builds a qemu with coverage support. This may have changed
  ↳ since he blogged.

```

---

**Author:** Joel Sherrill 2015-02-11T17:55:01.000Z

---

- **Milestone** set to %”5.0”

---

**Author:** Amar Takhar 2015-02-11T18:06:46.000Z

---

I think this should be added into the waf build rather than kept separately. The test suite is inside RTEMS it seems natural everything needed for coverage reporting is there too.

I know this requires modified tools – RSB can build the tools the rest should go into waf.

---

**Author:** Chris Johns 2017-08-13T23:52:30.000Z

---

- **Milestone** changed from %”5.0” to %”4.12.0”
- **Version** changed from ~”4.11” to ~”4.12”

Moving to 4.12.0 as a milestone. The ticket can be updated once this years GSoC project wraps up.

---

**Author:** Joel Sherrill 2017-10-12T02:51:36.000Z

---

- **Resolution** set to ~”fixed”
- **Status** changed from *new* to *closed*

All code is now merged after GSoC.

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.901 2213 - Decreased performance for whetstone benchmark using GCC >=4.5

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2213                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2014-12-09T10:07:33.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::gcc                                                  |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2213">https://gitlab.rtems.org/rtems/rtems/-/issues/2213</a> |
| <b>Merges</b>      | 0                                                                                                                   |



Original author: daniel.cederman

Moving from GCC 4.4.2 to 4.9.2 increases the execution time of the whetstone benchmark on both SPARC and x86. The cause seems to be a single commit. I have submitted a bug report to the GCC bugzilla:

[https://gcc.gnu.org/bugzilla/show\\_bug.cgi?id=64193](https://gcc.gnu.org/bugzilla/show_bug.cgi?id=64193)

---

**Author:** Joel Sherrill 2015-01-22T15:15:04.000Z

---

Original author: daniel.cederman

Daniel.. did this get resolved? I recall discussions.

---

**Author:** Trac Migrate 2015-01-23T09:43:41.000Z

---

Original author: daniel.cederman

Richard Biener provided a patch that fixed it on trunk. It looks like it could be easy to backport, but I have not had time to test it yet.

---

**Author:** Gedare Bloom 2015-03-02T20:48:06.000Z

---

Original author: daniel.cederman

- **Milestone** changed from %"4.11" to %"4.11.1"

---

**Author:** Trac Migrate 2017-01-23T13:47:53.000Z

---

Original author: daniel.cederman

- **Owner** set to Needs Funding
- **Status** changed from *new* to *assigned*

How is the performance on GCC 6 or 7?

---

**Author:** Trac Migrate 2017-01-23T13:48:08.000Z

---

Original author: daniel.cederman

- **Owner** set to daniel

---

**Author:** Trac Migrate 2017-01-23T14:53:23.000Z

---

Original author: daniel.cederman

A quick test shows that the performance for GCC 7 is about the same as for GCC 4.4.6.

GCC 4.4.6 => ~52 seconds GCC 4.9.4 => ~55 seconds GCC 7.0.0 (master at 20170116) => ~52 seconds Compiled with -O3 and -mcpu=leon3.

---

**Author:** Trac Migrate 2017-01-23T14:55:31.000Z

---

Original author: daniel.cederman

- **Milestone** changed from %"4.11.1" to %"4.12"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Fixed in RTEMS 4.12, no plans to fix this in RTEMS 4.11.

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: daniel.cederman

- **Milestone** changed from %"4.12" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: daniel.cederman

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.902 2207 - RTEMS tar does not overwrite.

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2207                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2014-12-03T00:31:37.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::highest, priority::low, resolution::fixed, ticket-type::enhancement, version::4.11                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2207">https://gitlab.rtems.org/rtems/rtems/-/issues/2207</a> |
| <b>Merges</b>      | 0                                                                                                                   |

A host tar by default will overwrite the contents of a directory. A sort of refresh. The RTEMS tar requires you remove the existing files rather than overwrite. This is dangerous because you have to remove files yet you do not know if the tar will be successful and moving and saving files assumes you know the contents of the tar file before hand.

Tar should be changed to overwrite and so allow files to be refreshed.

Consistence of files should be managed outside of tar via hashes or checksums.

---

**Author:** Chris Johns 2014-12-03T10:15:43.000Z

---

Running some tests with tar on MacOS I see tar updates by removing files before outputting the new file. The example shown chowns x1/d1 to root while x1/d1/f1 is still owned by me:

```
$ tar xf z1.tar x1/d1/: Can't update time for x1/d1 x1/d1/f2: Can't unlink already-existing object tar: Error exit delayed from previous errors.
```

Looks like a delete tree needs to be added.

---

**Author:** Trac Migrate 2014-12-18T09:12:11.000Z

---

- **Milestone** changed from %"4.11" to %"5.0"
- **Priority** changed from ~"highest" to ~"low"

---

**Author:** Trac Migrate 2016-06-04T00:11:31.000Z

---

- **Resolution** set to ~"fixed"
- **Status** changed from *new* to *closed*

In changeset d84e346b26017f021c1a7d5c8ad078c7264240ab:

libmisc/untar: Support directory create and overwrites. Share the common code. Support creating directories for files with a path depth greater than 1. Some tar files can have files with a path depth greater than 1 and no directory entry in the tar file to create a directory. Support overwriting existing files and directories failing in a similar way to tar on common hosts. If a file is replaced with a file delete the file and create a new file. If a directory replaces a file remove the file and create the directory. If a file replaces a directory remove the directory, and if the directory is not empty and cannot be removed report an error. If a directory already exists do nothing leaving the contents untouched. The untar code now shares the common header parsing and initial processing with the actual writes still separate. No changes to the IMFS have been made. Updates [#2415](#). Closes [#2207](#).

---

**Author:** Trac Migrate 2017-10-05T08:33:00.000Z

---

- **Milestone** changed from %"5.0" to %"4.12.0"

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.903 2176 - fishy behavior in termios tx task mode

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2176                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                                 |
| <b>Created</b>     | 2014-04-15T16:38:51.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::low, priority::normal, resolution::wontfix, rtems::score, ticket-type::defect, version::4.10                        |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2176">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2176</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: johill

I have a look around in the drivers in the various BSPs and I notice that none of the termios drivers appear to transmit characters at task level even if they are running in termios task mode. Maybe all (most) of them send characters in the ISR. If there was a large frame of characters to send then this could lock out task activity for too long.

FWIW, I had a closer look at this today, and maybe something is fishy in the termios code when the TX part of termios runs in task driven mode. It seems that in task mode if the UART can accept characters immediately in the write routine then we wouldnt need to turn on any interrupts at all. The write routine would need to somehow tell termios how many characters it sent; presumably this would occur by calling `rtems_termios_dequeue_characters` in the driver's write function. I see in the code that this tries to work, `rtems_termios_dequeue_characters` posts the semaphore of termios tx and increases the characters sent count of termios. However after the write routine returns it goes badly.

If the transmitter runs in termios TASK mode and the driver's write routine does not immediately enable an interrupt, then it returns to the code below in `rtems_termios_puts` and it sets the transmitter to `rob_busy`. After that the termios tx daemon proceeds to step through all of the characters remaining (I think that I see this in the debugger) and discards them because the transmitter stays in `rob_busy` state.

It's also probably odd that termios calls the write function with interrupts disabled when it is in task driven mode; we could loop outputting a large frame of characters in the write routine at task level with interrupts globally disabled.

```
if (tty->rawOutBufState == rob_idle) { /* check, whether XOFF has been received
/ if (!(tty->flow_ctrl & FL_ORCVXOF)) { (*tty->device.write)(tty->minor, (char *)&tty-
>rawOutBuf.theBuf[tty->rawOutBuf.Tail],1); } else { / remember that output has been stopped
due to flow ctrl*/ tty->flow_ctrl |= FL_OSTOP; } tty->rawOutBufState = rob_busy; }
```

```
[debug]#0 rtems_termios_puts (_buf=0x9ca60, len=1, tty=0x11509c) at /home/hill/nios2-
rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/libcsupport/src/termios.c:677
```

```
[debug]#1 0x00015c68 in oproc (c=99 'c', tty=0x11509c) at /home/hill/nios2-
rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/libcsupport/src/termios.c:748 [de-
```

```
bug]#2 0x00015d9c in rtems_termios_write (arg=0x9cad8) at /home/hill/nios2-
rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/libcsupport/src/termios.c:770
```

```
[debug]#3 0x00002ef0 in console_write (major=0, minor=0, arg=0x9cad8) at
```

```

/home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/lib/libbsp/nios2/altera-sys-
config/./console/console.c:171 [debug]#4 0x0006c328 in rtems_io_write (major=0,
minor=0, argument=0x9cad8) at /home/hill/nios2-rtems/rtems/rtems-git/rtems-
4.10/c/src/./../cpukit/sapi/src/iowrite.c:47 [debug]#5 0x00068044 in device_write
(iop=0x114988, buffer=0x3366d4, count=44) at /home/hill/nios2-rtems/rtems/rtems-
git/rtems-4.10/c/src/./../cpukit/libfs/src/imfs/deviceio.c:160 [debug]#6 0x00017ef4
in write (fd=1, buffer=0x3366d4, count=44) at /home/hill/nios2-rtems/rtems/rtems-
git/rtems-4.10/c/src/./../cpukit/libcsupport/src/write.c:51 [debug]#7 0x0007f078
in _write_r (ptr=0x9d638, fd=1, buf=0x3366d4, nbytes=44) at /home/hill/nios2-
rtems/rtems/rtems-git/rtems-4.10/c/src/./../cpukit/libcsupport/src/write_r.c:38 [de-
bug]#8 0x0006d488 in _fflush_r (ptr=0x9d638, fp=0x9d98c) at .././.././.././../nios2-
rtems/altera/altera11.0/gnu-tools/rtems-patched/gcc-4.1/newlib/libc/stdio/fflush.c:214
[debug]#9 0x000754e8 in __sfvwrite_r (ptr=0x9d638, fp=0x9d98c, uio=0x9cbe0)
at .././.././.././../nios2-rtems/altera/altera11.0/gnu-tools/rtems-patched/gcc-
4.1/newlib/libc/stdio/fvwrite.c:257 [debug]#10 0x0007830c in __sprint_r (ptr=0x9d638,
fp=0x20, uio=0x9cbe0) at .././.././.././../nios2-rtems/altera/altera11.0/gnu-tools/rtems-
patched/gcc-4.1/newlib/libc/stdio/vfprintf.c:322 [debug]#11 0x00072fc8 in _vfprintf_r
(data=0x9d638, fp=0x9d98c, fmt0=<value optimized out>, ap=0x0) at .././.././.././../nios2-
rtems/altera/altera11.0/gnu-tools/rtems-patched/gcc-4.1/newlib/libc/stdio/vfprintf.c:1501
[debug]#12 0x0006dce8 in printf (fmt=0x1 "") at .././.././.././../nios2-
rtems/altera/altera11.0/gnu-tools/rtems-patched/gcc-4.1/newlib/libc/stdio/printf.c:52 [de-
bug]#13 0x00057de0 in bootpc_init (update_files=false, forever=true) at /home/hill/nios2-
rtems/rtems/rtems-git/rtems-4.10/c/src/./../cpukit/libnetworking/nfs/bootp_subr.c:997
[debug]#14 0x0002960c in rtems_bsdnet_do_bootp () at /home/hill/nios2-
rtems/rtems/rtems-git/rtems-4.10/c/src/./../cpukit/libnetworking/rtems/rtems_bootp.c:23
[debug]#15 0x0002b218 in rtems_bsdnet_initialize_network () at /home/hill/nios2-
rtems/rtems/rtems-git/rtems-4.10/c/src/./../cpukit/libnetworking/rtems/rtems_glue.c:980
[debug]#16 0x00001528 in Init (ignored=565432) at init.c:47 [debug]#17
0x0006ccb0 in _Thread_Handler () at /home/hill/nios2-rtems/rtems/rtems-git/rtems-
4.10/c/src/./../cpukit/score/src/threadhandler.c:145 [debug]#18 0x0006cc28
in _Thread_Is_heir (the_thread=0x6cc28) at .././cpukit/./.././altera-sys-
config/lib/include/rtems/score/thread.inl:82 [debug]Backtrace stopped: frame did not
save the PC

```

**Author:** Trac Migrate 2014-04-17T05:22:35.000Z

Original author: johill

- Cc added @sebastian.huber

Yes, the interrupt support for Termios is broken if you ask me. It is very unlikely that we will see an improvement here unless someone gets a budget for this.

**Author:** Trac Migrate 2014-12-18T12:35:42.000Z

Original author: johill

Original author: sebastian.huber

- **Description** changed

```

1 I have a look around in the drivers in the various BSPs and I notice
  ↳ that none of the termios drivers appear to transmit characters at
  ↳ task level even if they are running in termios task mode. Maybe all
  ↳ (most) of them send characters in the ISR. If there was a large frame
  ↳ of characters to send then this could lock out task activity for too
  ↳ long.

2

3 FWIW, I had a closer look at this today, and maybe something is fishy
  ↳ in the termios code when the TX part of termios runs in task driven
  ↳ mode. It seems that in task mode if the UART can accept characters
  ↳ immediately in the write routine then we wouldn't need
  ↳ to turn on any interrupts at all. The write routine would need to
  ↳ somehow tell termios how many characters it sent; presumably this
  ↳ would occur by calling rtems_termios_dequeue_characters in the driver
  ↳ 's write function. I see in the code that this tries to work, rtems_
  ↳ termios_dequeue_characters posts the semaphore of termios tx and
  ↳ increases the characters sent count of termios. However after the
  ↳ write routine returns it goes badly.

4

5 If the transmitter runs in termios TASK mode and the driver's write
  ↳ routine does not immediately enable an interrupt, then it returns to
  ↳ the code below in rtems_termios_puts and it sets the transmitter to
  ↳ rob_busy. After that the termios tx daemon proceeds to step through
  ↳ all of the characters remaining (I think that I see this in the
  ↳ debugger) and discards them because the transmitter stays in rob_busy
  ↳ state.

6

7 It's also probably odd that termios calls the write function with
  ↳ interrupts disabled when it is in task driven mode; we could loop
  ↳ outputting a large frame of characters in the write routine at task
  ↳ level with interrupts globally disabled.

8

9 if (tty->rawOutBufState == rob_idle) {
10 /* check, whether XOFF has been received */
11 if (!(tty->flow_ctrl & FL_ORCVXOF)) {
12 (*tty->device.write)(tty->minor,
13 (char *)&tty->rawOutBuf.theBuf[tty->rawOutBuf.Tail],1);
14 }
15 else {
16 /* remember that output has been stopped due to flow ctrl*/
17 tty->flow_ctrl |= FL_OSTOP;
18 }
19 tty->rawOutBufState = rob_busy;
20 }

21

22 [debug]#0 rtems_termios_puts (_buf=0x9ca60, len=1, tty=0x11509c) at /
  ↳ home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/
  ↳ libcsupport/src/termios.c:677
23 [debug]#1 0x00015c68 in oproc (c=99 'c', tty=0x11509c) at /home/hill/
  ↳ nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/libcsupport/

```

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```

↪src/termios.c:748
24 [debug]#2 0x00015d9c in rtems_termios_write (arg=0x9cad8) at /home/
↪hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/
↪libcsupport/src/termios.c:770
25 [debug]#3 0x00002ef0 in console_write (major=0, minor=0, arg=0x9cad8)↪
↪at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/lib/libbsp/
↪nios2/altera-sys-config/.console/console.c:171
26 [debug]#4 0x0006c328 in rtems_io_write (major=0, minor=0,↪
↪argument=0x9cad8) at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.
↪10/c/src/../../cpukit/sapi/src/iowrite.c:47
27 [debug]#5 0x00068044 in device_write (iop=0x114988, buffer=0x3366d4,↪
↪count=44) at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/.
↪../../cpukit/libfs/src/imfs/deviceio.c:160
28 [debug]#6 0x00017ef4 in write (fd=1, buffer=0x3366d4, count=44) at /
↪home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/
↪libcsupport/src/write.c:51
29 [debug]#7 0x0007f078 in _write_r (ptr=0x9d638, fd=1, buf=0x3366d4,↪
↪nbytes=44) at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/
↪../../cpukit/libcsupport/src/write_r.c:38
30 [debug]#8 0x0006d488 in _fflush_r (ptr=0x9d638, fp=0x9d98c) at ../../..
↪../../../../nios2-rtems/altera/altera11.0/gnu-tools/rtems-patched/gcc-4.
↪1/newlib/libc/stdio/fflush.c:214
31 [debug]#9 0x000754e8 in __sfvwrite_r (ptr=0x9d638, fp=0x9d98c,↪
↪uio=0x9cbe0) at ../../../../../../nios2-rtems/altera/altera11.0/gnu-
↪tools/rtems-patched/gcc-4.1/newlib/libc/stdio/fvwrite.c:257
32 [debug]#10 0x0007830c in __sprint_r (ptr=0x9d638, fp=0x20, uio=0x9cbe0)↪
↪at ../../../../../../nios2-rtems/altera/altera11.0/gnu-tools/rtems-
↪patched/gcc-4.1/newlib/libc/stdio/vfprintf.c:322
33 [debug]#11 0x00072fc8 in _vfprintf_r (data=0x9d638, fp=0x9d98c, fmt0=
↪<value optimized out>, ap=0x0) at ../../../../../../nios2-rtems/
↪altera/altera11.0/gnu-tools/rtems-patched/gcc-4.1/newlib/libc/stdio/
↪vfprintf.c:1501
34 [debug]#12 0x0006dce8 in printf (fmt=0x1 "") at ../../../../../../nios2-
↪rtems/altera/altera11.0/gnu-tools/rtems-patched/gcc-4.1/newlib/libc/
↪stdio/printf.c:52
35 [debug]#13 0x00057de0 in bootpc_init (update_files=false, forever=true)↪
↪at /home/hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../
↪cpukit/libnetworking/nfs/bootpc_subr.c:997
36 [debug]#14 0x0002960c in rtems_bsdnet_do_bootp () at /home/hill/nios2-
↪rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/libnetworking/
↪rtems/rtems_bootp.c:23
37 [debug]#15 0x0002b218 in rtems_bsdnet_initialize_network () at /home/
↪hill/nios2-rtems/rtems/rtems-git/rtems-4.10/c/src/../../cpukit/
↪libnetworking/rtems/rtems_glue.c:980
38 [debug]#16 0x00001528 in Init (ignored=565432) at init.c:47
39 [debug]#17 0x0006ccb0 in _Thread_Handler () at /home/hill/nios2-rtems/
↪rtems/rtems-git/rtems-4.10/c/src/../../cpukit/score/src/threadhandler.
↪c:145
40 [debug]#18 0x0006cc28 in _Thread_Is_heir (the_thread=0x6cc28) at ../../

```

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```

↳ cpukit/../../../../altera-sys-config/lib/include/rtems/score/thread.
↳ inl:82
41 [debug]Backtrace stopped: frame did not save the PC

```

- **Milestone** changed from %”4.11” to %”5.0”
- **Priority** changed from ~”normal” to ~”low”

---

**Author:** Trac Migrate 2017-02-01T06:16:37.000Z

---

Original author: johill

- **Resolution** set to ~”wontfix”
- **Status** changed from *new* to *closed*

Termios supports now a TERMIOS\_IRQ\_SERVER\_DRIVEN mode, see [#2839](#).

---

**Author:** Trac Migrate 2017-02-01T06:16:50.000Z

---

Original author: johill

- **Milestone** changed from %”5.0” to %”4.12”
- **Version** ~”4.10” deleted

---

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

---

Original author: johill

- **Milestone** changed from %”4.12” to %”4.12.0”

---

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

---

Original author: johill

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed



## 4.2.1.904 2173 - Potential integer overflow problem in EDF scheduler

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2173                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Joel Sherrill                                                                                                                 |
| <b>Created</b>     | 2014-03-24T06:06:34.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::normal, resolution::fixed, resolution::wontfix, rtems::score, tickettype::defect, version::4.11, version::HEAD      |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2173">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2173</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

On 2014-03-21 14:46, Gedare Bloom wrote:> On Fri, Mar 21, 2014 at 9:43 AM, Sebastian Huber

<[sebastian.huber@embedded-brains.de](mailto:sebastian.huber@embedded-brains.de)> wrote: [...]

I have another question regarding the EDF scheduler. Does this work in case `_Watchdog_Ticks_since_boot` overflows?

No. For this, I think we need to use “deadline folding” which is just modulo arithmetic.

```
void _Scheduler_EDF_Release_job( Thread_Control
the_thread, uint32_t deadline ) { Priority_Control
new_priority; if (deadline) { / Initializing or shifting
deadline. / new_priority = ( _Watchdog_Ticks_since_boot +
deadline) & ~SCHEDULER_EDF_PRIO_MSB; } else { / Switch
back to background priority. */ new_priority = the_thread-
>Start.initial_priority; } the_thread->real_priority =
new_priority; _Thread_Change_priority(the_thread,
new_priority, true); }
```

`_Watchdog_Ticks_since_boot` is `uint32_t` and overflows after 49 days with a one millisecond clock tick.

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2014-03-24T06:06:34.000Z |
|------------------------------------------------------|

Original author: sebastian.huber

On 2014-03-21 14:46, Gedare Bloom wrote:> On Fri, Mar 21, 2014 at 9:43 AM, Sebastian Huber

<[sebastian.huber@embedded-brains.de](mailto:sebastian.huber@embedded-brains.de)> wrote: [...]

I have another question regarding the EDF scheduler. Does this work in case `_Watchdog_Ticks_since_boot` overflows?

No. For this, I think we need to use “deadline folding” which is just modulo arithmetic.

```
void _Scheduler_EDF_Release_job(
  Thread_Control the_thread, uint32_t deadline )
{ Priority_Control new_priority; if (deadline) { /
  Initializing or shifting deadline. / new_priority
  = (_Watchdog_Ticks_since_boot + deadline) &
  ~SCHEDULER_EDF_PRIO_MSB; } else { / Switch
  back to background priority. */ new_priority
  = the_thread->Start.initial_priority; }
  the_thread->real_priority = new_priority;
  _Thread_Change_priority(the_thread,
  new_priority, true); }
```

\_Watchdog\_Ticks\_since\_boot us uint32\_t and overflows after 49 days with a one millisecond clock tick.

**Author:** Joel Sherrill 2014-11-23T16:26:56.000Z

Original author: sebastian.huber

- **Description** changed

```
1 On 2014-03-21 14:46, Gedare Bloom wrote:> On Fri, Mar 21, 2014 at 9:43_
  ↪AM, Sebastian Huber
2
3
4 <sebastian.huber@embedded-brains.de> wrote:
5 [...]
6
7
8 I have another question regarding the EDF scheduler. Does this_
  ↪work in case
9 _Watchdog_Ticks_since_boot overflows?
10
11
12 No. For this, I think we need to use "deadline folding" which is_
  ↪just
13 modulo arithmetic.
14
15
16 void _Scheduler_EDF_Release_job(
17 Thread_Control *the_thread,
18 uint32_t deadline
19 )
20 {
21 Priority_Control new_priority;
22 if (deadline) {
23 /* Initializing or shifting deadline. */
```

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```

24     new_priority = (_Watchdog_Ticks_since_boot + deadline)
25     & ~SCHEDULER_EDF_PRIO_MSB;
26     }
27     else {
28         /* Switch back to background priority. */
29         new_priority = the_thread->Start.initial_priority;
30     }
31     the_thread->real_priority = new_priority;
32     _Thread_Change_priority(the_thread, new_priority, true);
33     }
34
35     _Watchdog_Ticks_since_boot us uint32_t and overflows after 49_
↪ days with a one millisecond clock tick.
36
37     * **Resolution** set to ~"wontfix"
38     * **Status** changed from *new* to *closed*
39
40     Sebastian noted this was a hardware problem. Seems to indicate_
↪ problem is NA now.

```

**Author:** Trac Migrate 2014-11-24T07:28:07.000Z

Original author: sebastian.huber

- **Resolution** ~"wontfix" deleted
- **Status** changed from *closed* to *reopened*

Actually the Bugzilla to trac conversion seems to have a lot of errors.

This was not a hardware problem. This is still an open issue.

Without much consideration I would fix it like this:

1. Make the tick since boot uint64\_t.
2. Make the Thread\_Control::current\_priority and Thread\_Control::real\_priority int64\_t (to support easy comparison operations for RB tree insert and search).
3. Remove the Scheduler\_Operations::priority\_compare operation.

With a system tick of 1ns the system can run 146years before something overflows.

**Author:** Gedare Bloom 2014-11-24T18:58:28.000Z

Original author: sebastian.huber

- **Version** changed from ~"HEAD" to ~"4.11"

Replace Version=HEAD with Version=4.11 for the tickets with Milestone >= 4.11

**Author:** Joel Sherrill 2014-11-24T19:35:19.000Z

Original author: sebastian.huber

The EDF scheduler should NOT use priority to store the deadline. That is one issue and it shows itself by bogus values being returned when you obtain the current priority. So #2 is **NOT** acceptable to me. The EDF scheduler should use its own internal stored value to sort the threads.

Why can't the scheduler use uptime and not ticks since boot?

The EDF scheduler is broken in assuming it can rewrite a thread priority with a deadline.

---

**Author:** Gedare Bloom 2014-11-24T19:44:23.000Z

---

Original author: sebastian.huber

Why not rewrite thread (current) priority?

Priority should be an opaque notion of a scheduler in general, which should export information needed for synchronization modules (locks) to implement PI/PC protocols. The priority of a thread being scheduled according to EDF increases (toward 0) as its deadline draws closer.

That said, I'm not opposed to putting the absolute deadline into the scheduler-specific portion of the TCB. I just don't understand the strong negative reaction to letting the scheduler determine what priority means.

---

**Author:** Gedare Bloom 2015-03-02T20:42:45.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.11" to %"4.11.1"

bump milestone

---

**Author:** Trac Migrate 2016-06-22T12:47:47.000Z

---

Original author: sebastian.huber

In changeset 77ff5599e0d8e6d91190a379be21a332f83252b0:

score: Introduce map priority scheduler operation Introduce map/unmap priority scheduler operations to map thread priority values from/to the user domain to/from the scheduler domain. Use the map priority operation to validate the thread priority. The EDF schedulers use this new operation to distinguish between normal priorities and priorities obtain through a job release. Update #2173. Update #2556.

---

**Author:** Trac Migrate 2016-06-22T12:47:57.000Z

---

Original author: sebastian.huber

In changeset 7ec66e0890c65f3fdfed9db91a4ae59de6a8ff18:

score: Remove hidden deadline overrule for CBS Do what the user commands. Maybe we should add a `rtems_cbs_period()` that calls `rtems_rate_monotonic_period()` with the right parameter. Update [#2173](#).

**Author:** Trac Migrate 2016-06-22T12:48:06.000Z

Original author: sebastian.huber

In changeset 9a78f8a5076687a8744991998ee6119f87db12a8:

score: Modify release job scheduler operation Pass the deadline in watchdog ticks to the scheduler. Update [#2173](#).

**Author:** Trac Migrate 2016-06-22T12:48:16.000Z

Original author: sebastian.huber

In changeset 99fc1d1d1b44e70a0bed4c94a514bd3f3b5df64f:

score: Rework EDF scheduler Use inline red-black tree insert. Do not use shifting priorities since this is not supported by the thread queues. Due to the 32-bit `Priority_Control` this currently limits the uptime to 49days with a 1ms clock tick. Update [#2173](#).

**Author:** Trac Migrate 2017-01-26T07:16:00.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.11.1" to %"4.11.2"

**Author:** Trac Migrate 2017-01-31T09:18:55.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 On 2014-03-21 14:46, Gedare Bloom wrote:> On Fri, Mar 21, 2014 at 9:43
  ↪AM, Sebastian Huber
2
3
4 <sebastian.huber@embedded-brains.de> wrote:
5 [...]
6
7
8 I have another question regarding the EDF scheduler. Does this
  ↪work in case

```

(continues on next page)

(continued from previous page)

```

9      _Watchdog_Ticks_since_boot overflows?
10
11
12      No. For this, I think we need to use "deadline folding" which is_
13      ↪ just
14      modulo arithmetic.
15
16      void _Scheduler_EDF_Release_job(
17          Thread_Control    *the_thread,
18          uint32_t           deadline
19      )
20      {
21          Priority_Control new_priority;
22          if (deadline) {
23              /* Initializing or shifting deadline. */
24              new_priority = (_Watchdog_Ticks_since_boot + deadline)
25              & ~SCHEDULER_EDF_PRIO_MSB;
26          }
27          else {
28              /* Switch back to background priority. */
29              new_priority = the_thread->Start.initial_priority;
30          }
31          the_thread->real_priority = new_priority;
32          _Thread_Change_priority(the_thread, new_priority, true);
33      }
34
35      _Watchdog_Ticks_since_boot us uint32_t and overflows after 49_
36      ↪ days with a one millisecond clock tick.
37
38      * **Milestone** changed from %"4.11.2" to %"4.12"
39      * **Resolution** set to ~"fixed"
40      * **Status** changed from *reopened* to *closed*

```

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

## 4.2.1.905 2135 - times() and \_times() are subject to integer overflows

|                    |                                                                                                                                                           |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2135                                                                                                                                                      |
| <b>State</b>       | closed                                                                                                                                                    |
| <b>Type</b>        | ISSUE                                                                                                                                                     |
| <b>Author</b>      | Trac Migrate                                                                                                                                              |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                                              |
| <b>Created</b>     | 2013-07-30T07:06:13.000Z                                                                                                                                  |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                                                  |
| <b>Milestone</b>   | 5.1                                                                                                                                                       |
| <b>Labels</b>      | api::posix, priority::low, priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::4.11, version::4.12, version::5, version::HEAD |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2135">https://gitlab.rtems.org/rtems/rtems/-/issues/2135</a>                                       |
| <b>Merges</b>      | 0                                                                                                                                                         |

Original author: sebastian.huber

The clock\_t type is defined as unsigned long for RTEMS in Newlib. With a 1ms clock tick an overflow happens after 7 days on 32-bit long targets.

**Author:** Joel Sherrill 2013-07-30T13:19:19.000Z

Original author: sebastian.huber

Replying to comment:1:

Replying to comment:0:

The clock\_t type is defined as unsigned long for RTEMS in Newlib. With a 1ms clock tick an overflow happens after 7 days on 32-bit long targets.

I mean 7 weeks.

CentOS 6.4 has this has clock\_t as \_\_clock\_t which appears to be a long int. So no better.

**Author:** Gedare Bloom 2014-11-24T18:58:28.000Z

Original author: sebastian.huber

- **Version** changed from ~"HEAD" to ~"4.11"

Replace Version=HEAD with Version=4.11 for the tickets with Milestone >= 4.11

**Author:** Trac Migrate 2014-12-18T12:29:27.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.11" to %"5.0"
- **Priority** changed from ~"normal" to ~"low"

**Author:** Chris Johns 2017-08-14T00:41:59.000Z

Original author: sebastian.huber

- **Milestone** changed from %”5.0” to %”4.12.0”
- **Version** changed from ~”4.11” to ~”4.12”

Moving to 4.12.0. Please update and move if this is not valid.

**Author:** Trac Migrate 2017-08-24T06:55:23.000Z

Original author: sebastian.huber

This should change to at least 64-bit just like time\_t.

**Author:** Trac Migrate 2017-08-25T12:37:43.000Z

Original author: sebastian.huber

In [changeset:”4f364ef763f6c08bf9ba7ac3ede2a4288fdd517c/rtems-source-builder” 4f364ef/rtems-source-builder]:

```
1 4.12: Change clock_t to 64-bit
2
3 Update #2135.
4 Update #3111.
```

**Author:** Trac Migrate 2017-08-25T13:37:31.000Z

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*

**Author:** Trac Migrate 2017-09-06T05:43:52.000Z

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *accepted* to *closed*

In [changeset:”731e68a39a7b8d662df74d75d780c1ad2c2f8729/rtems” 731e68a3/rtems]:

```
1 Fix integer overflow problems in times()
2
3 An integer overflow may still happen, however, only after 68 years of
                                     (continues on next page)
```



(continued from previous page)

```

4 system uptime.
5
6 Close #2135.

```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

4.2.1.906 2133 - <rtems/score/basedefs.h> superfluously includes <string.h>

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2133                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2013-07-23T10:28:30.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, rtems::score, tickettype::defect, version::4.11, version::HEAD                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/2133">https://gitlab.rtems.org/rtems/rtems/-/issues/2133</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: sebastian.huber

In older RTEMS versions <rtems.h> provided <string.h> indirectly. The include of <string.h> was added to not break application source files that relied on this accidentally.

We may remove this include in the future.

**Author:** Trac Migrate 2013-07-23T10:28:30.000Z

Original author: sebastian.huber

In older RTEMS versions <rtems.h> provided <string.h> indirectly. The include of <string.h> was added to not break application source files that relied on this accidentally.

We may remove this include in the future.

**Author:** Joel Sherrill 2014-11-23T16:45:56.000Z

Original author: sebastian.huber

- **Description** changed

```

1 In older RTEMS versions <rtems.h> provided <string.h> indirectly. The
2 ↪include
3 of <string.h> was added to not break application source files that
4 ↪relied on
5 this accidentally.
6 We may remove this include in the future.

```

Can this be closed? The ticket is a warning about a change to basedefs.h and the comment makes no sense.

**Author:** Gedare Bloom 2014-11-24T18:58:28.000Z

Original author: sebastian.huber

- **Version** changed from ~"HEAD" to ~"4.11"

Replace Version=HEAD with Version=4.11 for the tickets with Milestone >= 4.11

**Author:** Trac Migrate 2014-11-27T13:50:45.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.11" to %"5.0"

**Author:** Joel Sherrill 2014-11-27T14:47:36.000Z

Original author: sebastian.huber

Out of curiosity, why shouldn't we just remove these includes now? There is no way to warn a user at compile time that they will be impacted. All we are doing is delaying the inevitable random number of users who are impacted. Hopefully that number is higher in the future than now.

My proposal is:

- make a announcement to users@ and devel@ that these includes were removed and any

code that unintentionally depended on them will have compile errors or warnings. This will serve as a hit in Google.

- Remove it and see what tests break. Make sure the commits for those issues include

enough information in the log so Google will see those as related.

Break and move forward.

**Author:** Amar Takhar 2014-11-27T14:49:14.000Z

Original author: sebastian.huber

Replying to [joel.sherrill](#):

Out of curiosity, why shouldn't we just remove these includes now? There is no way to warn a user at compile time that they will be impacted. All we are doing is delaying the inevitable random number of users who are impacted. Hopefully that number is higher in the future than now.

All of these are moving in 5.0 anyway why bother moving it now when it works? I don't disagree with your reasoning but closing milestone:4.11 would be nice!

---

**Author:** Trac Migrate 2014-11-27T15:02:35.000Z

---

Original author: sebastian.huber

At the time I created the `*impl.h` header files, a lot of stuff broke due to the now missing indirect include. I guess this is also true for application code. Especially `<string.h>`. Maybe this include is a feature not a bug.

---

**Author:** Joel Sherrill 2014-11-27T15:32:18.000Z

---

Original author: sebastian.huber

I agree on closing milestone 4.11 but this isn't the long pole in the tent. If we want to just get this behind us, let's do it. No point putting it off.

---

**Author:** Trac Migrate 2014-11-27T15:45:08.000Z

---

Original author: sebastian.huber

We still have the option to set this to WONTFIX and close it forever.

---

**Author:** Chris Johns 2017-08-13T23:55:42.000Z

---

Original author: sebastian.huber

- **Description** changed

```

1 In older RTEMS versions <rtems.h> provided <string.h> indirectly. The
2   ↪include
3 of <string.h> was added to not break application source files that
4   ↪relied on
5 this accidentally.
6
7 We may remove this include in the future.
```

- **Milestone** changed from %"5.0" to %"4.11.3"

Please fix or close this ticket? Thanks.

---

**Author:** Trac Migrate 2017-08-24T10:47:31.000Z

---

Original author: sebastian.huber

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *accepted*

---

**Author:** Joel Sherrill 2017-08-24T16:15:12.000Z

---

Original author: sebastian.huber

I don't think the milestone should be 4.11.3. At this point, this would break the contract for users on a release branch. I think the milestone should be 4.12 and this fixed.

---

**Author:** Trac Migrate 2017-08-25T06:32:41.000Z

---

Original author: sebastian.huber

- **Milestone** changed from %"4.11.3" to %"4.12.0"
- **Version** ~"4.11" deleted

---

**Author:** Trac Migrate 2017-08-25T10:53:56.000Z

---

Original author: sebastian.huber

In [changeset:"b2ed712d26ecdf9930e9725ebc6020eb995f2a20/rtems" b2ed712/rtems]:

```
1 Include missing <string.h>
2
3 Update #2133.
```

---

**Author:** Trac Migrate 2017-08-25T10:54:35.000Z

---

Original author: sebastian.huber

In [changeset:"76b9c313ac0636ff0e1cb480325d084ecbed495d/rtems" 76b9c31/rtems]:

```
1 libpci: Use calloc()
2
3 Update #2133.
```

---

**Author:** Trac Migrate 2017-08-25T10:55:11.000Z

---

Original author: sebastian.huber

- **Resolution** set to ~”fixed”
- **Status** changed from *accepted* to *closed*

In [changeset:”163ff8ee04bedda81cf8aa963a21aa3f46fdff5f/rtems”  
163ff8e/rtems]:

```
1 score: Remove <string.h> include from basedefs.h
2
3 Close #2133.
```

**Author:** Trac Migrate 2017-08-25T12:24:08.000Z

Original author: sebastian.huber

In [changeset:”666a56883ad2ae7757689f28cee2b9b80582bcd6/rtems-libbsd”  
666a568/rtems-libbsd]:

```
1 Include missing <string.h> and <limits.h>
2
3 Fix warnings.
4
5 Update #2132.
6 Update #2133.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.907 2132 - <rtems/score/basedefs.h> superfluously includes <limits.h>

|                    |                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 2132                                                                                                                          |
| <b>State</b>       | closed                                                                                                                        |
| <b>Type</b>        | ISSUE                                                                                                                         |
| <b>Author</b>      | Trac Migrate                                                                                                                  |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                                  |
| <b>Created</b>     | 2013-07-22T14:36:54.000Z                                                                                                      |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                      |
| <b>Milestone</b>   | 5.1                                                                                                                           |
| <b>Labels</b>      | priority::low, priority::normal, resolution::fixed, rtems::score, ticket-type::defect, version::4.11, version::HEAD           |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2132">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/2132</a> |
| <b>Merges</b>      | 0                                                                                                                             |

Original author: sebastian.huber

In older RTEMS versions `<rtems.h>` provided `<limits.h>` indirectly. The include of `<limits.h>` was added to not break application source files that relied on this accidentally.

We may remove this include in the future.

**Author:** Trac Migrate 2013-07-22T14:36:54.000Z

Original author: sebastian.huber

In older RTEMS versions `<rtems.h>` provided `<limits.h>` indirectly. The include of `<limits.h>` was added to not break application source files that relied on this accidentally.

We may remove this include in the future.

**Author:** Joel Sherrill 2014-11-22T16:10:47.000Z

Original author: sebastian.huber

- **Description** changed

```
1 In older RTEMS versions <rtems.h> provided <limits.h> indirectly. The
  include of <limits.h> was added to not break application source files
  that relied on this accidentally.
2
3 We may remove this include in the future.
```

- **Owner** set to sebastian.huber
- **Status** changed from *new* to *assigned*

Sebastian .. is this still valid? What do you want to do?

**Author:** Trac Migrate 2014-11-24T07:52:18.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.11" to %"5.0"

**Author:** Gedare Bloom 2014-11-24T18:58:28.000Z

Original author: sebastian.huber

- **Version** changed from ~"HEAD" to ~"4.11"

Replace Version=HEAD with Version=4.11 for the tickets with Milestone >= 4.11

**Author:** Trac Migrate 2015-02-18T14:39:52.000Z

Original author: sebastian.huber

Original author: sebastian.huber

- **Description** changed

```

1 In older RTEMS versions <rtems.h> provided <limits.h> indirectly. The
2 ↪include of <limits.h> was added to not break application source files
3 ↪that relied on this accidentally.

2 We may remove this include in the future.

```

- **Status** changed from *assigned* to *accepted*

**Author:** Trac Migrate 2016-12-23T14:10:53.000Z

Original author: sebastian.huber

- **Priority** changed from ~"normal" to ~"low"

**Author:** Trac Migrate 2017-08-25T10:54:09.000Z

Original author: sebastian.huber

- **Milestone** changed from %"5.0" to %"4.12.0"
- **Version** ~"4.11" deleted

**Author:** Trac Migrate 2017-08-25T10:54:09.000Z

Original author: sebastian.huber

In [changeset:"1f22b26945e5377f23f98497ebf23a6f25e68b10/rtems" 1f22b26/rtems]:

```

1 Include missing <limits.h>
2
3 Update #2132.

```

**Author:** Trac Migrate 2017-08-25T10:54:59.000Z

Original author: sebastian.huber

- **Resolution** set to ~"fixed"
- **Status** changed from *accepted* to *closed*

In [changeset:"cfa7afd4e453e13951601178170b76548517644b/rtems" cfa7afd/rtems]:

```

1 score: Remove <limits.h> include from basedefs.h
2
3 Close #2132.

```

**Author:** Trac Migrate 2017-08-25T12:24:08.000Z

Original author: sebastian.huber

In [changeset:"666a56883ad2ae7757689f28cee2b9b80582bcd6/rtems-libbsd" 666a568/rtems-libbsd]:

```
1 Include missing <string.h> and <limits.h>
2
3 Fix warnings.
4
5 Update #2132.
6 Update #2133.
```

**Author:** Trac Migrate 2017-08-25T12:40:14.000Z

Original author: sebastian.huber

In [changeset:"02b007e11e00e728d6ced5131470f48203153bb8/rtems" 02b007e/rtems]:

```
1 Include missing <limits.h>
2
3 Update #2132.
```

**Author:** Trac Migrate 2017-09-19T08:57:49.000Z

Original author: sebastian.huber

In [changeset:"9a50e32ded341ddbfc434f8ed5813cd8acd3ed9e/rtems" 9a50e32/rtems]:

```
1 score: Include missing <limits.h>
2
3 Update #2132.
4 Close #3140.
```

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: sebastian.huber

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed



## 4.2.1.908 1747 - Heap extend allows discontinuous memory regions.

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 1747                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Chris Johns                                                                                                         |
| <b>Assignee(s)</b> | Trac Migrate                                                                                                        |
| <b>Created</b>     | 2011-03-01T01:16:43.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::low, priority::normal, resolution::fixed, rtems::score, ticket-type::defect, version::4.11, version::HEAD |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/1747">https://gitlab.rtems.org/rtems/rtems/-/issues/1747</a> |
| <b>Merges</b>      | 0                                                                                                                   |

The check in (cpukit/ChangeLog) states:

2010-06-07 Sebastian Huber <[sebastian.huber@embedded-brains.de](mailto:sebastian.huber@embedded-brains.de)>

- score/src/heapextend.c: Implemented support for scattered heap areas.

The heap cannot support scattered blocks because the `_Heap_Is_block_in_heap` assumes the region is continuous between the first and last blocks of the heap. Making the gaps in the regions passed to the heap extend call used is questionable and makes the `_Heap_Is_block_in_heap` test not really perform the task it's name states. This is an issue because it is this check that determines if a heap free of NULL should proceed. This issue is covered in another PR.

I also wonder about a heap free call to an address that maps to one of the “in-use” gap regions. The previous heap code knew if an address was in the heap and therefore it was kind of safe to probe for a valid block. This assumption is now not valid.

The former heap extend code:

<http://www.rtems.org/viewvc/rtems/cpukit/score/src/heapextend.c?revision=1.7&view=markup>

clearly states the type of memory that can be added to an existing heap. The current code has no restrictions. The user manual is not great in this area. It would also be useful if comments are added to the heap extend code.

The heap extend code is used by the `rtems_region_extend` call and this call clearly states in the manual that the memory region must be continuous. If this has changed we should discuss the API change and make better note of it. I also suspect the testsuite will need additions to test any API changes.

**Author:** Trac Migrate 2011-03-01T07:46:28.000Z

The support for scattered heap area does no harm for users of the continuous case. Only if you use the flexibility of a scattered heap area you have to live with a less effective `_Heap_Is_block_in_heap()` check.

**Author:** Gedare Bloom 2014-11-24T18:58:28.000Z

- **Version** changed from ~"HEAD" to ~"4.11"

Replace Version=HEAD with Version=4.11 for the tickets with Milestone >= 4.11

**Author:** Trac Migrate 2014-11-27T12:59:46.000Z

Original author: sebastian.huber

- **Description** changed

```

1 The check in (cpukit/ChangeLog) states:
2
3 2010-06-07      Sebastian Huber <sebastian.huber@embedded-brains.de>
4
5 * score/src/heapextend.c: Implemented support for scattered heap areas.
6
7 The heap cannot support scattered blocks because the _Heap_Is_block_in_
  ↳ heap assumes the region is continuous between the first and last_
  ↳ blocks of the heap. Making the gaps in the regions passed to the heap_
  ↳ extend call used is questionable and makes the _Heap_Is_block_in_heap_
  ↳ test not really perform the task it's name states. This is an issue_
  ↳ because it is this check that determines if a heap free of NULL_
  ↳ should proceed. This issue is covered in another PR.
8
9 I also wonder about a heap free call to an address that maps to one of_
  ↳ the "in-use" gap regions. The previous heap code knew if an address_
  ↳ was in the heap and therefore it was kind of safe to probe for a_
  ↳ valid block. This assumption is now not valid.
10
11 The former heap extend code:
12
13 http://www.rtems.org/viewvc/rtems/cpukit/score/src/heapextend.c?
  ↳ revision=1.7&view=markup
14
15 clearly states the type of memory that can be added to an existing heap.
  ↳ The current code has no restrictions. The user manual is not great_
  ↳ in this area. It would also be useful if comments are added to the_
  ↳ heap extend code.
16
17 The heap extend code is used by the rtems_region_extend call and this_
  ↳ call clearly states in the manual that the memory region must be_
  ↳ continuous. If this has changed we should discuss the API change and_
  ↳ make better note of it. I also suspect the testsuite will need_
  ↳ additions to test any API changes.

```

Where in the documentation should this heap extension stuff be mentioned?

**Author:** Trac Migrate 2015-02-18T14:37:17.000Z

Original author: sebastian.huber

- **Description** changed

```

1 The check in (cpukit/ChangeLog) states:
2
3 2010-06-07      Sebastian Huber <sebastian.huber@embedded-brains.de>
4
5 * score/src/heapextend.c: Implemented support for scattered heap areas.
6
7 The heap cannot support scattered blocks because the _Heap_Is_block_in_
  ↳ heap assumes the region is continuous between the first and last_
  ↳ blocks of the heap. Making the gaps in the regions passed to the heap_
  ↳ extend call used is questionable and makes the _Heap_Is_block_in_heap_
  ↳ test not really perform the task it's name states. This is an issue_
  ↳ because it is this check that determines if a heap free of NULL_
  ↳ should proceed. This issue is covered in another PR.
8
9 I also wonder about a heap free call to an address that maps to one of_
  ↳ the "in-use" gap regions. The previous heap code knew if an address_
  ↳ was in the heap and therefore it was kind of safe to probe for a_
  ↳ valid block. This assumption is now not valid.
10
11 The former heap extend code:
12
13 http://www.rtems.org/viewvc/rtems/cpukit/score/src/heapextend.c?
  ↳ revision=1.7&view=markup
14
15 clearly states the type of memory that can be added to an existing heap.
  ↳ The current code has no restrictions. The user manual is not great_
  ↳ in this area. It would also be useful if comments are added to the_
  ↳ heap extend code.
16
17 The heap extend code is used by the rtems_region_extend call and this_
  ↳ call clearly states in the manual that the memory region must be_
  ↳ continuous. If this has changed we should discuss the API change and_
  ↳ make better note of it. I also suspect the testsuite will need_
  ↳ additions to test any API changes.

```

- **Status** changed from *new* to *accepted*

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Gedare Bloom    2015-03-02T20:42:45.000Z |
|---------------------------------------------------------|

- **Milestone** changed from %"4.11" to %"4.11.1"

bump milestone

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Trac Migrate    2016-12-23T14:10:53.000Z |
|---------------------------------------------------------|

- **Priority** changed from ~"normal" to ~"low"

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Trac Migrate    2017-01-26T07:16:00.000Z |
|---------------------------------------------------------|

- **Milestone** changed from %”4.11.1” to %”4.11.2”

**Author:** Trac Migrate 2017-01-27T07:06:50.000Z

In changeset 4ea92d1ed11f0fc93d6b40729ebe7ec5c03d448e:

score: Clarify \_Heap\_Extend() Update #1747.

**Author:** Trac Migrate 2017-01-27T07:08:24.000Z

- **Milestone** changed from %”4.11.2” to %”4.12”
- **Resolution** set to ~”fixed”
- **Status** changed from *accepted* to *closed*

[9889463c236f3445ef00a48d2e848e742860a130/rtems-docs]

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

- **Milestone** changed from %”4.12” to %”4.12.0”

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

- **Milestone** changed from %”4.12.0” to %”5.1”

Milestone renamed

4.2.1.909 1394 - scandir() fails due to MAXNAMELEN is incorrect

|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 1394                                                                                                                |
| <b>State</b>       | closed                                                                                                              |
| <b>Type</b>        | ISSUE                                                                                                               |
| <b>Author</b>      | Trac Migrate                                                                                                        |
| <b>Assignee(s)</b> | Chris Johns                                                                                                         |
| <b>Created</b>     | 2009-03-20T07:55:57.000Z                                                                                            |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                            |
| <b>Milestone</b>   | 5.1                                                                                                                 |
| <b>Labels</b>      | priority::normal, resolution::fixed, tickettype::defect, tool::newlib, version::4.10, version::4.11                 |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtems/-/issues/1394">https://gitlab.rtems.org/rtems/rtems/-/issues/1394</a> |
| <b>Merges</b>      | 0                                                                                                                   |

Original author: daniel

I have been trying to use scandir() however the newlib one does not work due to MAXNAMELEN and NAMELEN differ. scandir in libcsupport seems to have a fix for this, however my libcsupport\_a-scandir.o is empty, I’m guessing because HAVE\_SCANDIR is defined.

It is used in scandir() (newlib-1.17.0/newlib/libc/posix/scandir.c:117) by the macro DIRSIZ. Where DIRSIZ uses the MAXNAMELEN define which is set incorrectly. It does not match the

sizeof(struct dirent) which makes the DIRSIZ return a negative number, then malloc(DIRSIZ(d)) will try to allocate 4GB which fail.

My guess is that MAXNAMELEN should be defined in newlib-1.17.0/newlib/libc/sys/rtems/sys/dirent.h or newlib-1.17.0/newlib/libc/sys/rtems/include/limits.h or in a new file.

I tried to run the code below on my FAT filesystem, taken directly from the scandir(3) man page.

```
/* print files in current directory in reverse order */
```

```
include <dirent.h>
```

```
main(){ struct dirent **namelist; int n;
```

```
n = scandir(".", &namelist, 0, NULL); if (n < 0) perror("scandir"); else { while(n--) {
printf("%sn", namelist[n]->d_name); free(namelist[n]); } free(namelist); } }
```

- [0001-Add-simple-test-for-scandir-on-all-file-systems-test.patch](#)
- [0001-rtems-make-MAXNAMELEN-match-with-NAME\\_MAX.patch](#)

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Trac Migrate 2013-03-28T09:30:17.000Z |
|------------------------------------------------------|

Original author: daniel

- Cc added @sebastian.huber
- Milestone %"2" deleted
- Milestone set to %"4.11"

I just looked in the latest Newlib sources. The MAXNAMELEN vs. NAME\_MAX problem still exists:

```
./newlib/libc/sys/rtems/sys/syslimits.h:#define NAME_MAX 255 /* max bytes in a
file name */ ./newlib/libc/sys/rtems/sys/dirent.h: char d_name[NAME_MAX + 1];
```

```
./newlib/libc/include/dirent.h:#if !defined(MAXNAMELEN) && !de-
fined(_POSIX_SOURCE) ./newlib/libc/include/dirent.h:#define MAXNAMELEN
1024
```

```
0x0202acd0 in scandir (dirname=<optimized out>, namelist=0x203feb0,
select=0x200149c <select1>, dcomp=0x0) at /home/sh/archive/gcc-
4.6.3/newlib/libc/posix/scandir.c:117 117 p = (struct dirent *)malloc(DIRSIZ(d));
Value returned is $1 = 1 (gdb) s malloc (size=4294966555) at /home/sh/git-
rtems/c/src/../../cpukit/libcsupport/src/malloc.c:33 33 MSBUMP(malloc_calls,
1);
```

The psxtests/psxreaddir is quite sloppy since the scandir() return status is only printed:

```
scandir status: -1
```

|                                                      |
|------------------------------------------------------|
| <b>Author:</b> Gedare Bloom 2014-11-23T16:06:57.000Z |
|------------------------------------------------------|

Original author: daniel

- **Description** changed

```

1 I have been trying to use scandir() however the newlib one does not
  ↳ work due to MAXNAMLEN and NAMLEN differ. scandir in libcsupport seems
  ↳ to have a fix for this, however my libcsupport_a-scandir.o is empty, I
  ↳ 'm guessing because HAVE_SCANDIR is defined.
2
3 It is used in scandir() (newlib-1.17.0/newlib/libc/posix/scandir.c:117)
  ↳ by the macro DIRSIZ. Where DIRSIZ uses the MAXNAMELEN define which is
  ↳ set incorrectly. It does not match the sizeof(struct dirent) which
  ↳ makes the DIRSIZ return a negative number, then malloc(DIRSIZ(d))
  ↳ will try to allocate 4GB which fail.
4
5 My guess is that MAXNAMELEN should be defined in newlib-1.17.0/newlib/
  ↳ libc/sys/rtems/sys/dirent.h or newlib-1.17.0/newlib/libc/sys/rtems/
  ↳ include/limits.h or in a new file.
6
7 I tried to run the code below on my FAT filesystem, taken directly from
  ↳ the scandir(3) man page.
8
9 /* print files in current directory in reverse order */
10 #include <dirent.h>
11 main(){
12 struct dirent **namelist;
13 int n;
14
15 n = scandir(".", &namelist, 0, NULL);
16 if (n < 0)
17 perror("scandir");
18 else {
19 while(n--) {
20 printf("%s\n", namelist[n]->d_name);
21 free(namelist[n]);
22 }
23 free(namelist);
24 }
25 }

```

- **Version** changed from ~"unknown" to ~"4.11"

|                                                          |
|----------------------------------------------------------|
| <b>Author:</b> Joel Sherrill    2014-11-23T16:11:19.000Z |
|----------------------------------------------------------|

Original author: daniel

- **Version** changed from ~"4.11" to ~"4.10"

This was reported in the 4.10 development cycle. 4.9 used newlib 1.16.0 and 4.10 used 1.18.0.

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Gedare Bloom    2015-02-25T19:06:54.000Z |
|---------------------------------------------------------|

Original author: daniel

- **Attachment** [0001-rtems-make-MAXNAMLEN-match-with-NAME\\_MAX.patch](#) added

Possible Fix

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Gedare Bloom    2015-02-25T19:07:53.000Z |
|---------------------------------------------------------|

Original author: daniel

- **Description** changed

```

1 I have been trying to use scandir() however the newlib one does not
  ↳ work due to MAXNAMLEN and NAMLEN differ. scandir in libcsupport seems
  ↳ to have a fix for this, however my libcsupport_a-scandir.o is empty, I
  ↳ 'm guessing because HAVE_SCANDIR is defined.
2
3 It is used in scandir() (newlib-1.17.0/newlib/libc/posix/scandir.c:117)
  ↳ by the macro DIRSIZ. Where DIRSIZ uses the MAXNAMELEN define which is
  ↳ set incorrectly. It does not match the sizeof(struct dirent) which
  ↳ makes the DIRSIZ return a negative number, then malloc(DIRSIZ(d))
  ↳ will try to allocate 4GB which fail.
4
5 My guess is that MAXNAMELEN should be defined in newlib-1.17.0/newlib/
  ↳ libc/sys/rtems/sys/dirent.h or newlib-1.17.0/newlib/libc/sys/rtems/
  ↳ include/limits.h or in a new file.
6
7 I tried to run the code below on my FAT filesystem, taken directly from
  ↳ the scandir(3) man page.
8
9 /* print files in current directory in reverse order */
10 #include <dirent.h>
11 main(){
12 struct dirent **namelist;
13 int n;
14
15 n = scandir(".", &namelist, 0, NULL);
16 if (n < 0)
17 perror("scandir");
18 else {
19 while(n--) {
20 printf("%s\\n", namelist[n]->d_name);
21 free(namelist[n]);
22 }
23 free(namelist);
24 }
25 }

```

Attached patch should work but I haven't tested it yet.

|                                                         |
|---------------------------------------------------------|
| <b>Author:</b> Gedare Bloom    2015-03-03T16:35:58.000Z |
|---------------------------------------------------------|

Original author: daniel

I don't have a test case for this.

---

**Author:** Joel Sherrill 2015-03-03T21:17:09.000Z

---

Original author: daniel

- **Attachment** [0001-Add-simple-test-for-scandir-on-all-file-systems-test.patch](#) added

fstest suite scandir() family of tests

---

**Author:** Gedare Bloom 2015-03-03T21:45:18.000Z

---

Original author: daniel

Further examination in newlib shows that this bug should no longer manifest itself. However, we might want to consider adding the tests and even upstreaming the patch for making the two defines match to avoid any future problems. I don't have a fix for 4.10.

---

**Author:** Joel Sherrill 2015-03-04T20:47:47.000Z

---

Original author: daniel

Added new set of tests fsscandir01 in fstests for code shown in this PR.

---

**Author:** Gedare Bloom 2015-03-04T21:18:58.000Z

---

Original author: daniel

- **Milestone** changed from %"4.11" to %"4.10.3"

Move to 4.10.3 in case we want to provide a fix there. This problem is resolved in newlib already.

---

**Author:** Trac Migrate 2017-01-24T09:08:54.000Z

---

Original author: daniel

In changeset 6af2221aac489acac54c2daaf9702a926ec1e263:

fsscandir01: Check MAXNAMLEN and NAME\_MAX Update [#1394](#).

---

**Author:** Trac Migrate 2017-01-24T09:09:31.000Z

---

Original author: daniel

- **Milestone** changed from %"4.10.3" to %"4.12"



<https://sourceware.org/ml/newlib/2017/msg00077.html>

**Author:** Trac Migrate 2017-01-25T12:24:00.000Z

Original author: daniel

- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*

Fix with next Newlib snapshot.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: daniel

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: daniel

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

#### 4.2.1.910 1247 - RTEMS does not implement locks needed by multithreaded newlib

|                    |                                                                                                                                        |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Id</b>          | 1247                                                                                                                                   |
| <b>State</b>       | closed                                                                                                                                 |
| <b>Type</b>        | ISSUE                                                                                                                                  |
| <b>Author</b>      | Trac Migrate                                                                                                                           |
| <b>Assignee(s)</b> | Chris Johns                                                                                                                            |
| <b>Created</b>     | 2007-06-17T03:43:24.000Z                                                                                                               |
| <b>Updated</b>     | 2017-11-09T06:27:14.000Z                                                                                                               |
| <b>Milestone</b>   | 5.1                                                                                                                                    |
| <b>Labels</b>      | cpukit, filesystem, priority::highest, resolution::fixed, tickettype::defect, version::4.11, version::4.5, version::4.7, version::HEAD |
| <b>Link</b>        | <a href="https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/1247">https://gitlab.rtems.org/rtems/rtos/rtems/-/issues/1247</a>          |
| <b>Merges</b>      | 0                                                                                                                                      |

Original author: strauman

multi-threaded newlib protects a number of internal data structures (as of newlib-1.15 these comprise: \* global list of FILE objects \* stdio FILE object initializer \* individual FILEs [since FILEs with the exception of stdin/stdout/stderr are per-process entities] \* global hash table used by telldir/seekdir \* individual DIR structures (opendir/readdir) \* atexit list \* list of environment variables \* global timezone variable ) using mutexes. It expects the OS to implement these locks but defaults to not using locking if the OS does not provide an implementation. Currently, RTEMS does *not* provide its own implementation of 'sys/lock.h' and therefore vital data structures in newlib are currently *unprotected* (with the exception of environment variables

– ‘envlock.c’ had been added to RTEMS a while ago but since then, newlib has introduced more locks and a general OS interface which - once implemented - will obsolete ‘envlock.c’).

Note that while semantics of having no protection for individual FILE objects may be tolerable, having no protection for global newlib data structures such as lists of FILEs is not acceptable.

I am currently working on an implementation which should be available shortly.

- [PR#1247-newlib-1.15.0-locking.diff](#)
- [PR#1247-newlib-1.16.0-locking-crt0add.diff](#)
- [PR#1247-rtems-newlibc-locking-1.diff](#)
- [PR#1247-rtems-newlibc-locking.diff](#)

---

**Author:** Trac Migrate 2007-08-23T23:53:38.000Z

---

Original author: strauman

- **Attachment** [PR#1247-rtems-newlibc-locking.diff](#) added

Implements locks needed by newlib

---

**Author:** Trac Migrate 2007-08-23T23:55:18.000Z

---

Original author: strauman

- **Attachment** [PR#1247-newlib-1.15.0-locking.diff](#) added

Patch to newlibc for newlib to use RTEMS locks

---

**Author:** Trac Migrate 2008-03-06T21:47:00.000Z

---

Original author: strauman

- **Attachment** [PR#1247-rtems-newlibc-locking-1.diff](#) added

Implements locks needed by newlib

---

**Author:** Trac Migrate 2009-03-07T00:18:24.000Z

---

Original author: strauman

- **Attachment** [PR#1247-newlib-1.16.0-locking-crt0add.diff](#) added

*NEWLIB* - patch adding stubs to crt0.c required for RTEMS autoconf tests

---

**Author:** Trac Migrate 2009-03-07T00:18:24.000Z

---

Original author: strauman

This patch (to *newlib*) is required (in addition to the previously posted newlib patch) to help RTEMS autoconf tests. These tests try to link specific functions from newlib

in order to determine if newlib provides them. Some functions require the newlib locks, however, and linkage would fail unless stubs for the locking routines are present in crt0. Such stubs are what this patch provides.

**Author:** Gedare Bloom 2014-11-24T18:58:28.000Z

Original author: strauman

- **Milestone** changed from %"4.7" to %"4.11"
- **Owner** set to @chrisj
- **Status** changed from *new* to *assigned*, *chrisj@rtems.org*
- **Version** changed from ~"4.7" to ~"HEAD"
- **Version** changed from ~"HEAD" to ~"4.11"

Replace Version=HEAD with Version=4.11 for the tickets with Milestone >= 4.11

**Author:** Gedare Bloom 2015-02-10T15:16:33.000Z

Original author: strauman

- **Description** changed

```

1 multi-threaded newlib protects a number of internal data structures
2 (as of newlib-1.15 these comprise:
3 - global list of FILE objects
4 - stdio FILE object initializer
5 - individual FILEs [since FILEs with the exception of
6 stdin/stdout/stderr are per-process entities]
7 - global hash table used by telldir/seekdir
8 - individual DIR structures (opendir/readdir)
9 - atexit list
10 - list of environment variables
11 - global timezone variable
12 )
13 using mutexes. It expects the OS to implement these locks but defaults
14 to not using locking if the OS does not provide an implementation.
15 Currently, RTEMS does *not* provide its own implementation of 'sys/lock.
16 ↪h'
17 and therefore vital data structures in newlib are currently_
18 ↪*unprotected*
19 (with the exception of environment variables -- 'envlock.c' had been
20 added to RTEMS a while ago but since then, newlib has introduced more
21 locks and a general OS interface which - once implemented - will_
22 ↪obsolete
23 'envlock.c').
24
25 Note that while semantics of having no protection for individual FILE
26 objects may be tolerable, having no protection for global newlib data

```

(continues on next page)

(continued from previous page)

24 structures such as lists of FILES is not acceptable.  
 25  
 26 I am currently working on an implementation which should be available.  
 ↪ shortly.

!Sebastian/Chris: Is this still a valid problem?

**Author:** Gedare Bloom 2015-03-02T20:42:45.000Z

Original author: strauman

- **Milestone** changed from %"4.11" to %"4.11.1"

bump milestone

**Author:** Trac Migrate 2015-07-31T05:32:11.000Z

Original author: strauman

- **Milestone** changed from %"4.11.1" to %"4.12"
- **Resolution** set to ~"fixed"
- **Status** changed from *assigned* to *closed*
- **Version** changed from ~"4.11" to ~"4.5"

It is fixed with this commit in Newlib:

<https://sourceware.org/git/gitweb.cgi?p=newlib-cygwin.git;a=commit;h=eacf05f6601f1e8acb78fb65b411a258f39988a>

It requires an RTEMS version [9e9e61d27d146e2ca83d5b0f590683a3f605c3f1/rtems] or later.

**Author:** Trac Migrate 2017-05-11T07:31:02.000Z

Original author: strauman

- **Milestone** changed from %"4.12" to %"4.12.0"

**Author:** Trac Migrate 2017-11-09T06:27:14.000Z

Original author: strauman

- **Milestone** changed from %"4.12.0" to %"5.1"

Milestone renamed

- genindex
- search

# BIBLIOGRAPHY

[snip] ...